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ABSTRACT

This manual of facility guidelines examines the planning process and design features and considerations for public school fine arts programs in Maryland. Planning concepts and trends are highlighted followed by planning guidelines for dance, music, theater, visual arts, general education, and performance spaces. General design considerations discussed include facility accessibility, acoustics, climate control and energy conservation, indoor air quality, community use of the school, security and safety, and telecommunications systems. Appendices contain the requirements for fine arts instruction programs, Maryland arts organizations, and the Maryland State Department of Education standards for telecommunication distribution systems. (Contains 16 references.) (GR)

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Facilities Guidelines for Fine Arts Programs

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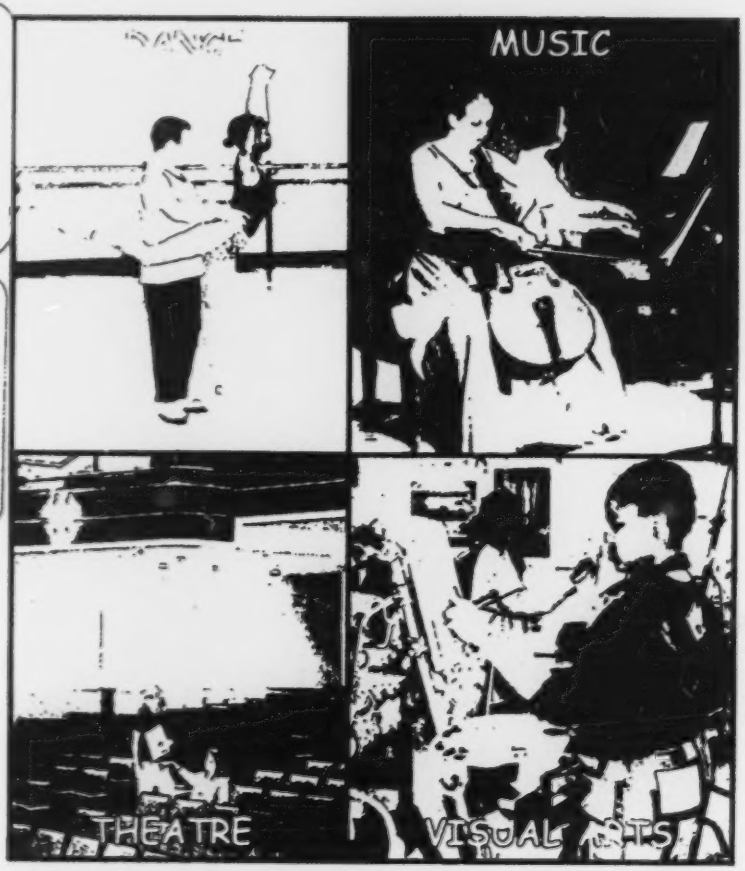

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Cover photographs show students from the School for the Arts in Baltimore City, Wilde Lake High School in Howard County, and the Blair School of Music in Nashville, Tennessee.

Foreword

The fine arts - dance, music, theatre, and the visual arts - are believed by many to be among humanities greatest aesthetic and intellectual achievements. They are powerful tools for communicating a broad range of human feelings and emotion, and they facilitate the growth of a broad range of important skills in general education. Therefore, it is very appropriate for the arts to be integrated into our total vision of a well-rounded graduate of Maryland's public schools.

Maryland's standards for fine arts education, referred to as the Essential Learner Outcomes for the Fine Arts, were approved by the State Board of Education in October of 1997. This framework includes a wealth of possibilities for making connections among the disciplines and for the development of fine arts skills, creativity, and aesthetic judgment within disciplines. These are addressed within a rich historical, cultural, and social context.

We are pleased to present these Facilities Guidelines for Fine Arts Programs. The guidelines are designed to support the vision and new standards we have set as a community for fine arts education. They will assist parents, teachers, school system staff, Boards of Education, architects, and other consultants in planning and designing school facilities for fine arts programs.

Our initiatives in arts education reflect our concern for providing every Maryland child opportunities to acquire the knowledge and skills needed to be successful in the 21st century. Students who have exhibited talents or interests in the arts will benefit from the expanded program provided in appropriate facilities, to be sure. However, even those students whose primary interests lie in other subject areas will find that study and practice in the fine arts will help them in a broad range of skills in general education.

Nancy S. Grasmick
State Superintendent of Schools

"A close look at what constitutes the best kind of experience for infants and young children leads quickly to the arts. From a baby's first lullaby, to a three-year-old's dramatization of a favorite story, developmentally appropriate arts experience is critical. For all children, at all ability levels, the arts play a central role in cognitive, motor, language, and social-emotional development. The arts motivate and engage children in learning, stimulate memory and facilitate understanding, enhance symbolic communication, promote relationships, and provide an avenue for building competence. The arts are natural for young children. Child development specialists note that play is the business of young children; play is the way children promote and enhance their development. The arts are a most natural vehicle for play."

from: Young Children and the Arts: Making Creative Connections

Chapter 1
Fine Arts Education

The Value of Arts Education for All Students

The arts make learning come alive.

The arts have the power to entice students into the learning process. Engaging all the senses, the arts involve creative discovery and self expression and engender enthusiasm for learning in children of all ages.

When students are actively engaged in the learning process, they will stay with it longer. Through the arts, children who make things and/or perform are able to express ideas and feelings to share with others. The pleasure of creating something special by themselves or with their peers is motivational in and of itself.

The arts have always been associated with special events in life. People have used the arts to mark the passing of time and to commemorate events they care about. The arts can do the same for the learning process - make it memorable. Dance, music, theatre and visual arts breathe life into a curriculum and contribute a creative dimension to school life.

The arts challenge students to think about and respond to themselves and to the world of experience in many different ways.

The arts enable children to use all their senses in learning, to think and listen more carefully. They help learners understand how meaning can be communicated through sight, sound, action, and movement. They develop critical thinking skills that enable them to enhance their ability to decode visual, spatial, and auditory experiences and gain a better understanding of the ways they influence people.

Children learn in many ways - through different "intelligences." Many students are by nature primarily visual or kinesthetic learners. While some learn by hearing, others learn best by seeing or by experiencing ideas physically and through movement. All students profit by instruction that is active and reinforced by engaging the senses. They further benefit by opportunities to express their ideas and feelings through the arts. Confidence and recognition achieved by students in the arts are reflected in other subject areas.

The arts cultivate skills and discipline.

The arts are highly active processes and often involve special knowledge, tools, materials, skills, and techniques. Learners can work directly with exciting media such as clay, paint, and computers; play musical instruments; and train their voices and bodies.

Creating something, be it a painting, a play, a song, or a dance, requires discipline and practice. The product often reflects sustained involvement, hard work, craftsmanship, and patience. Good work habits and the ability to concentrate can be built through the arts because the process is interesting and challenging and the end product justifies the time and effort invested.

The arts help children understand their own as well as other cultures and times.

Through the arts, children can discover how all people have the same basic needs. Everyone has a story to tell, memories to keep, adventures and journeys to share. People use the arts to express their thoughts and feelings about the mysteries of life.

Through the arts, children discover the rich and diverse ways different people have responded to these shared human needs. The questions and concerns, symbols and myths, and values and beliefs of a culture can be understood by studying the objects and rituals of its people.

The arts help students discover creative ways of thinking about questions and problems.

The creative thinking that goes into the arts involves exercising intuition, gathering information, exploring options, taking risks, making choices, refining possible solutions, crafting a product, rehearsing and practicing, and sharing the end production with others.

The arts develop critical thinking abilities and an understanding of systems and structures. Good analytical skills, as well as the ability to think creatively, are important in all aspects of life and have special value in the work place.

Many arts experiences are collaborative and help develop skills for working with others. They help students appreciate what can be achieved through teamwork.

The arts strengthen academic performance.

Because the arts stress creative thinking and analytical skills, students who have a strong background in the arts are more likely to out perform academically their peers who do not.

Because the arts are closely associated with important ideas and events in history and contemporary life, students who have a good background in the arts are likely to have more information and insight to draw upon than those who do not. Thus students in strong arts programs score well above their peers on SAT exams.

Students find that different art forms help them master academic concepts, information, and skills. Drawing helps writing; creative movement makes structures and processes understandable; songs and poetry make facts memorable; creative drama makes history and characters more vivid and real.

The arts open a wide range of careers.

There are many ways to pursue a career in the arts. The possibilities include a wide variety of professions in communications, design, entertainment, education, marketing, and advertising.

Skills and knowledge, processes and techniques from the arts have broad application in many other careers where communication, problem solving, and organizational skills matter. The 21st century will have increasing career opportunities for those with arts knowledge and skills.

The U.S. Labor Department report of the Secretary's Commission on Achieving Necessary Skills (SCANS) recently cited the important role of arts education in achieving many "core competencies" for the workplace, which include allocating resources, collaborating, acquiring and evaluating information and understanding social systems. The arts are cited as important for certain "foundation" skills which include thinking creatively, problem solving, exercising individual responsibility, sociability, and self-esteem.

The arts make leisure meaningful.

The ability to enjoy and learn from arts experiences can be a source of pleasure for life. The arts restore and refresh the spirit, delight and instruct, console and entertain.

ARTS CAREER SAMPLER

Actor
Animator
Antique Shop Owner
Architect
Art, Dance, Music, or Theatre Teacher
Arts Administrator
Broadcast Journalist
Casting Director
Choreographer
Commercial Artist
Costume Designer
Exhibits Designer
Fashion Consultant
Interior Designer
Librarian
Medical Illustrator
Movement Specialist
Museum Curator
Music Critic
Music Therapist
Photo Journalist
Photographer
Public Relations/Communications Director
Sheet Music Publisher
Special Effects Expert
Video Editor
Visual Effects Art Director
Web Designer

Arts education begins with a sequential and comprehensive basic program taught by specialists.

Much of what is taught in pre-school and kindergarten involves creative play and movement, music and art. Programs of excellence in elementary and middle schools include a sequential curriculum in visual arts, music, creative movement, and creative dramatics; in high schools, basic instruction in music, dance, theatre and the visual arts, with the option of pursuing sequential electives at the intermediate and advanced levels. By graduation from the twelfth grade, all students should have received basic instruction in all the art forms and developed some personal expertise in at least one of the disciplines.

A comprehensive arts education program seeks to develop students' abilities to:

- perceive and respond to ideas and the environment;
- understand the arts in historical, cultural, and social contexts;
- organize knowledge and creatively express ideas through producing or performing works of art;
- identify, analyze, and apply criteria for making aesthetic judgments.

Effective arts curricula are responsive to the developmental needs of all children. They should be comprehensive and sequential, building skills and knowledge over the years. Arts specialists from one level of the curriculum should work with those from other levels to design, periodically revise, and strengthen the program.

The basic program should be taught by certified specialists in the various art forms who have expertise in both the art form and in teaching methods so that instruction will be challenging and purposeful.

The learning of individual students should be assessed and programs should be evaluated to ensure that they meet high standards.

Basic programs can be supplemented in a variety of ways.

Classes can be designed to serve special needs of the population such as:

- visual and kinesthetic learners whose mastery of academic subjects can be enhanced through intense instruction in the arts;
- students identified as especially able in one or more of the art forms;
- students with special needs that can be addressed through focused instruction in the arts.

Enrichment experiences can supplement a basic program and may take the form of:

- special projects coordinated or directed by the teacher of an art form;
- Artists-In-Education programs which feature an artist in residence working for a period of time in a school with students and teachers;
- programs with museums and other cultural organizations that offer special experiences for students in the community;
- a program of special presentations or performances brought into the school;
- after-school or summer programs in the arts.

Interdisciplinary teaching can enhance a basic program in the arts. It requires that arts teachers are given time to plan and develop programs with other teachers including school library media specialists. Interdisciplinary teaching may take many forms including:

- Team teaching in which the arts specialist and the classroom or subject teacher develop and teach together a unit or project that fosters learning in both the art form and the content area and makes connections between the two.

- Thematic teaching wherein a group of teachers, including one or more of the arts specialists, chooses a theme for exploration in multiple content areas. Such an approach may or may not include team teaching. It usually concludes with exhibitions and performances through which all the work conducted in the various areas is shared. This approach helps students find continuity in their studies and relationships among content areas.

The arts can be made the center of a curriculum. Here a team of arts specialists works with classroom teachers to provide:

- an enhanced curriculum within the individual art forms;
- an integration of the arts into all content areas where students are encouraged to use music, dance, theatre, and the visual arts as ways of learning about different subjects and sharing their discoveries.

Specialized programs in the arts can also be selective. Students may be chosen by lottery, interest, or special ability. Specialized programs can be developed at any level but are most common at the middle and high school levels. They offer:

- intensive and sequential instruction within the various art forms;
- an academic curriculum in which the arts play a strong role in both the content and the learning process;
- opportunities to take course work in more than one art form or interdisciplinary experiences in the arts.

Most of the material above was developed by the Arts Education in Maryland Schools consortium and was originally published by the Maryland Alliance for Arts Education, Inc. in 1995.

Critical Success Factors for Achieving District-Wide Arts Education

The community

In districts with strong arts education, the community - broadly defined as parents and families, artists, arts organizations, businesses, local civic and cultural leaders and institutions - is actively engaged in the arts politics and instructional programs of the district.

The school board

School districts with strong arts education programs generally have boards of education that provide a supportive policy framework and environment for the arts.

The superintendent

Superintendents who regularly articulate a vision for arts education are critically important to its successful implementation and stability.

Continuity

There is enough continuity in the school and community leadership to implement comprehensive arts education.

The district arts coordinator

District arts coordinators facilitate program implementation throughout a school system and maintain an environment of support for arts education.

A cadre of principals

School principals who collectively support the policy of arts education for all students often are instrumental in the policy's successful district-wide implementation.

The teacher as artist

Effective teachers of the arts are allowed to - indeed are encouraged to - continue to learn and grow in mastery of their art form as well as in their teaching competence.

Parent/public relations

School leaders in districts with strong, system-wide arts education seize opportunities to make their programs known throughout the community in order to secure support and funding for them.

An elementary foundation

Strong arts programs in the elementary school years are the foundation for strong system-wide programs.

Opportunities for higher levels of achievement

School leaders in these districts provide specialized art programs as part of their broad strategy for securing and sustaining community support for the district's overall educational goals.

National, state, and other outside forces

Many districts in this study employ state or national policies and programs to advance arts education.

Planning

School leaders in this study advise the adoption of a comprehensive vision and plan for arts education but recommend its incremental implementation.

Continuous improvement

School districts that succeed in advancing arts education promote reflective practices at all levels of the schools to improve quality.

from: Gaining the Arts Advantage

The Arts in Maryland Public Schools

The State of Maryland is increasingly gaining recognition nationally for its education reform initiative and its commitment to high standards of accountability in education. It further understands the need for high quality arts education as a critical part of the education of our children. The State Board of Education has adopted as one of its Schools for Success Goals: that all children will participate in fine arts programs that enable them to meet Maryland standards in the arts.

There is evidence the Maryland School Performance Assessment Program (MSPAP) scores are being raised through teaching the arts. One elementary school with an at risk student population integrated a new arts program into the existing curriculum and doubled its aggregate MSPAP scores in one year with particularly strong improvement in the fifth grade. Another elementary school implemented an arts enhanced program and also produced dramatic results in increased MSPAP scores.

In October 1997, the State Board of Education approved a set of proposed outcomes, expectations, and indicators as content and achievement standards for dance, music, theatre, and visual arts programs in the public schools of Maryland. This set of standards is titled *Maryland Essential Learner Outcomes for the Fine Arts.*

To initiate discussion about the development of a comprehensive arts assessment program for Maryland students, four categories of activities are being undertaken currently. The state-of-the-art in fine arts assessment is being examined, with particular attention being given to large-scale arts assessments occurring nationally and in other states. Potential assessment options for Maryland that may measure successful achievement of the *Essential Learner Outcomes* (ELOs) are also being examined. The second activity is examining and categorizing the ELOs with their defining expectations and indicators to differentiate clearly those having the following characteristics: those that can be measured in traditional, paper and pencil configurations; those that can be measured using performance assessment task formats; and those that must be measured through more long-term, production oriented assessments. Following this examination, prototype items for each category of measure: paper and pencil measures, performance-based assessment tasks, and more long-term, production-based assessments will be developed. Because fine arts assessments in Maryland must meet the needs of a wide range of stakeholders, the fourth category requires developing, organizing and conducting a series of public engagement opportunities for constituent involvement.

In 1999, the Maryland State Department of Education conducted a review of local school systems' fine arts programs to determine the extent to which these programs were aligned to State standards. With two exceptions, every school system in Maryland has taken steps to begin aligning local fine arts curriculum guides to conform with the ELOs. Public school fine arts programs include music, visual arts, theatre, and dance. Refer to Appendix A for requirements.

Public school fine arts instructional programs vary across the State. On average, music and visual arts programs tend to receive greater support from school and community leaders than drama and dance programs. There are about 1,700 music teachers and 1,600 visual arts teachers employed by local school systems compared to 85 drama and 35 dance instructors.

In the 1999 study, elementary schools had on average one music instructor per 375 students. This ratio ranged from one music instructor per 280 students in Baltimore, Harford, and Howard Counties to one music instructor per 920 students in Baltimore City. In addition, elementary schools had on average one visual arts instructor per 525 students, ranging from one instructor per 325 students in Garrett

County to one instructor per 900 in Baltimore City and Wicomico County. At the middle and high school levels, there were on average one music instructor per 350 and 560 students, respectively; and one visual arts instructor per 415 and 330 students, respectively.

Most high school drama courses are performance-oriented and are taught by English teachers as an instructional class or after-school activity. Small and rural school systems usually offer one or two drama courses; larger school systems usually offer a broader range of courses including laboratory sessions. Currently, dance classes are offered in eight school systems with two local school systems employing dance instructors in each high school.

Maryland Essential Learner Outcomes for the Fine Arts

Dance Outcomes	Elementary School Expectations	Middle School Expectations	High School Expectations	Spaces Needed
I. Perceiving and Responding: Aesthetic Education	Perception Movement Basic elements of dance - body, space, energy	Sensory skills Images, sounds, experiences Language of Dance - technical skills, terminology, refined physical abilities	Sensory effects Interpretations Demonstrate and describe proficiency in form and technique	Activity room Multipurpose room Gymnasium Dance studio Stage Exterior area
II. Historical, Cultural, Social, Context	Understand why Recognize Forms Relate to other disciplines	Individual and cultural expression Philosophies Interrelationships	Analyze Philosophies Explain and create interrelationships	Classroom School Library Media Ctr Film, TV, Video labs Auditorium Theatres
III. Creative Expression and Production	Movements Composition Expression/Space	Improvise Organize Perform	Improvise Design and perform ideas/themes Stage production	Same as above
IV. Aesthetic Criticism	Reaction Personal response	Evaluation Personal assessment	Critically analyze Personal critique	Same as above

Maryland Essential Learner Outcomes for the Fine Arts

Music Outcomes	**Elementary School Expectations**	**Middle School Expectations**	**High School General Music Expectations**	**High School Instrumental & Vocal Music Expectations**	**Spaces Needed**
I. Perceiving, Performing, and Responding: Aesthetic Education	Sound characteristics, diversity Singing, playing instruments Movement Symbols	Elements/characteristics in variety genres/styles Performance skills solo and ensemble (for some) Movement Notation	Elements, sources techniques, forms Performance skills Movement conducting Reading, notating	Same as General Music plus: Interpretation, aural examples Following, fingerings, scales, intonation, phrasing	Classroom Practice room Stage Rehearsal room Exterior area Multipurpose room
II. Historical, Cultural, Social Context	Personal and societal expression Music in peoples' lives Relationships to other disciplines Musical styles	Social, political, ethical issues Historical context Relationship to other disciplines Genres, styles Wide variety styles, genres	Cultural connections Reflection, Influence, Social Structure Influences, Interaction other disciplines	Foreign languages Song Texts, careers	School library media center Film, TV, Video labs, Recording MIDI technology labs Auditorium Theatre
III. Creative Expression and Production	Improvise sounds Composing and arranging	Improvise Composing, arranging	Improvise Composing, arranging	Counter melodies, variations Transcription	Same as above
IV. Aesthetic Criticism	Expression, context Personal criteria	Evaluate compositions Evaluate performance	Evaluate compositions Evaluate performance		Same as above

Theatre Outcomes	**Elementary School Expectations**	**Middle School Expectations**	**High School Expectations**	**Spaces Needed**
I. Perceiving and Responding: Aesthetic Education	People, events, times, places Scenes, elements	Theatre in life Scenery, lighting, sound, costumes, makeup, mood, focus	Human experience Forms, practices, traditions	Classroom Stage Auditorium Multipurpose room
II. Historical, Cultural, and Social Context	Traditions, values, audience behaviors Ideas, themes, styles Read, perform, attend	Forms, styles, history Devices, dialogue, director Read, perform, attend	Periods, cultures, history, lives, works, influences Contributions of major practioners, architecture Read, perform, attend	Community theatre Professional/amateur production area Recording studio Film, Video, TV labs School library media center
III. Creative Expression and Production	Improvise, variety of techniques Performance/production, formal/informal	Original activities Performance, production	Rehearse, perform, variety of works Performance/ production, formal/ informal	Same as above
IV. Aesthetic Criticism	Listening, feedback, social unity Responses Criteria, evaluation	Team building skills Conventions Criteria, effectiveness	Collaboration Evaluate texts and literature Critiques, evaluations	Same as above

Maryland Essential Learner Outcomes for the Fine Arts

Visual Arts Outcomes	Elementary School Expectations	Middle School Expectations	High School Expectations	Spaces Needed
I. Perceiving, Performing and Responding Aesthetic Education	Form, size, line, shape, color, texture Representation - ideas, feelings, experiences, imagination Organization - emphasis, unity, balance	Identify, describe, produce - structural, physical qualities of observed form Organizational effects in art and nature Meaning of artworks	Visual perception and response Interpret meaning Defend decisions, identify references	Classroom Galleries
II. Historical, Cultural, and Social Context	Different times and places Reflect life Artists' unique styles With other disciplines	Ideas, events, universal themes Specific societies Classifications Connections among arts, humanities, sciences	Philosophical concepts, social commentary Historical eras Artists' choices and contexts Other disciplines	School library media ctrs Museum Music and theatre classroom
III. Creative Expression and Production	Using art media, processes, techniques Sources - fantasy, observation, ideas, visual & verbal notation Personally meaningful compositions	Solve specific art problems and personal statements Create visual images-maintain & assess portfolio Select and use organizational structure	Competent application of skills Competent, expressive application	Visual arts studios - drawing, painting, photography, sculpture, multimedia, computer graphics, ceramics
IV. Aesthetic Criticism	Criteria Evaluation	Identify, classify, apply criteria Motives, purposes, meanings Aesthetic judgments of own work & others	Criteria with aesthetic traditions, conventions Individually developed work with personal criteria	Same as above

"It is the supreme art of the teacher to awaken joy in creative expression and knowledge."

Albert Einstein

Chapter 2
The Planning Process

In planning a major new or renovated facility, a school system must translate an educational philosophy into a detailed design. In order to ensure that the facility is well-designed, many points of view and areas of knowledge must be tapped. Although each project is unique, the following steps outline a typical process.

Planning
1. Project approval and site selection
2. Planning committee and planning subgroup formation
3. Committee discussions and decisions on program, philosophy, content, staffing, organization, etc.
4. Educational specifications preparation
5. Selection of an architect
6. Selection of theatre design or acoustics consultant when required

Design
1. Pre-design meeting with the architect
2. Schematic design
3. Design development
4. Preparation of construction documents

Construction
1. Bidding and contract award
2. Construction
3. Acceptance of project

Occupancy
1. Installation of moveable equipment and furnishings
2. Occupancy

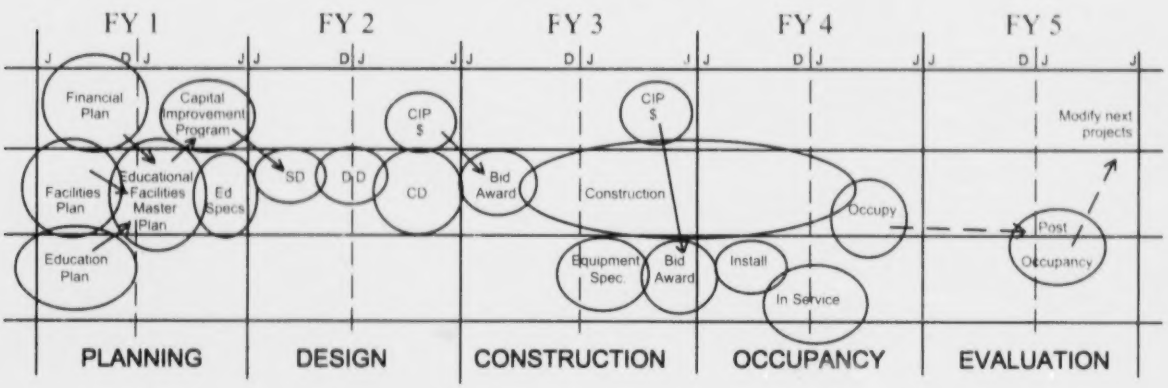
Evaluation
1. Post-occupancy evaluation

Planning

School board staff, parents, teachers, and administrators who see a need initiate school construction projects. As recognition of the need grows, school personnel work with school board facilities staff to define the scope of the project. Instructional experts, maintenance personnel, and design professionals may be brought together to analyze existing conditions and prepare preliminary cost estimates.

In Maryland, each county and the City of Baltimore operate a public school system. These school systems are typically large. Funding for projects comes from many sources targeted at various needs.

TIMELINE FOR MAJOR CONSTRUCTION PROJECTS



In all categories many viable projects compete for priority and funding each year. The school system is required by the State to maintain an educational facilities master plan outlining major construction and renovation projects. This plan guides the preparation of annual capital budget requests. For a major project, the first step for advocates is to get the project into the master plan and into the capital budget plan.

Convincing the school board staff, the superintendent, and then the school board itself is key. The local superintendent prepares a budget for the Board of Education. After public hearings, the Board of Education presents the request to the local government for funding. Funding occurs on a one-year or two-year cycle. Many projects are eligible for state capital funding through the Maryland Public School Construction Program (PSCP). These projects follow a similar cycle with a formal request from the school board ratified by the local government that is responsible for a local matching share of funds. Requests from all systems are reviewed by the PSCP and forwarded to the State's Board of Public Works (BPW) for approval. Both the PSCP and the BPW also hold public hearings on the requests. If the project is supported and funds are available, the governor includes the project in the State's budget and the legislature approves the funds.

Once the project is guaranteed funding, planning can proceed. Most fine arts projects take place within larger frameworks such as new school construction or major renovation projects. Some projects, however, may be specifically for the fine arts program. In either case, there will be a planning committee which has a key role in the decision making process for the overall project.

The Planning Committee

The planning committee is a collection of people with diverse interests and knowledge that provide a basis for decisions. Planning committees vary in their size and composition, but all planning committees for new construction or major renovation projects should include, at a minimum, the following:

- School principal
- Local school system facilities planner
- Maryland State Department of Education (MSDE) school facilities specialist
- Local fine arts education specialists
- Local maintenance specialist
- Parents
- Local educational curriculum specialists
- Teachers
- High school students when appropriate

The local school system administrator ensures that educational programs, budget constraints, and facilities standards are incorporated into the project. The facilities planner and/or the principal is often responsible for chairing the committee and facilitating the process. Even while the project is being developed as a whole entity, each of its programmatic components is studied and developed individually. Development of the fine arts program areas will be one of these components.

The MSDE school facilities specialist participates in an advisory role. He/she can serve as a resource on national trends, practices across Maryland, and State-level standards and references. The specialist can also serve as a link to MSDE instructional program specialists and other State agencies.

For large or complex projects, additional planning committee members may come from other government agencies, neighboring businesses, community arts groups, or the residential community. The planning committee should be involved throughout the entire process of facilities development, although its major impact is in the planning and design phases.

Visits to exemplary facilities are often scheduled for committee members. Specifically, the committee should participate in the following steps:

- Preparation of educational specifications
- Interpretation of the specifications for the project architect
- Development of alternative schematic design concepts
- Review of schematic design documents
- Review of design development documents
- Review of furniture and equipment lists
- Post-occupancy evaluation

Planning Committee Operational Recommendations:

1. Clearly define the roles, responsibilities, and authority of each person involved in the facilities planning process.
2. Clarify the difference between a recommendation and a decision as it relates to the subcommittee activities and the activities of the planning team as a whole.
3. Establish ground rules, priorities, and expectations at the outset.
4. Establish a positive climate for the exchange and the expression of individual ideas.

Site Selection in Maryland

The site selection process enables a school system and the State to objectively review the suitability of potential school sites. In addition to local approvals, the approval of the State Superintendent of Schools and the State Interagency Committee on School Construction (IAC) is required for the acquisition of all new sites. The State Clearinghouse of the Maryland Department of Planning coordinates the review by all state agencies. Site approvals are required from the following State agencies prior to submittal of the site for IAC and State Superintendent approval:

1. Maryland Department of Natural Resources
2. Maryland Department of the Environment
3. Maryland Historic Trust
4. Maryland State Highway Administration

Educational Specifications

Educational specifications articulate the physical requirements for the project as an outgrowth of the educational program. They must be consistent with the local educational facilities master plan and the overall project scope, capacity, and budget as approved by state and local agencies. They will guide the architect through the design and construction of the project. The planning committee members have input into the fine arts program spaces through the educational specification development process.

Educational specifications are a text document describing the site development, educational philosophy, and performance expectations for construction projects. They are needed whether the project involves new construction, additions or renovation, and are formally reviewed at the State level. Educational specifications for a project solely focused on fine arts spaces would be abbreviated including only applicable sections.

The existing fine arts facilities should be described in the educational specifications. Background information is taken from record drawings, specifications, maintenance reports, site visits to observe and document conditions, and interviews with users.

This information is used to guide the educational specifications and the project architect. The project architect refers to this information with the intent of identifying and incorporating into the schematic design those portions of the facility to be retained, reused, and/or renovated.

A school project solely for the purpose of renovating fine arts program areas without a concurrent school construction project should also include a survey of the existing conditions. The survey can be accomplished using teachers, students, school board staff, contracted services, or a combination of these approaches.

In addition to highlighting existing features, the educational specifications should include goals for fine arts program areas.

The final educational specifications document is a record of decisions about activities for students, teachers, and administrators, and a description of the site development and building spaces required to support such activities. It becomes the basis from which the project architect proceeds with the design. It also serves as a checklist for monitoring the progress of the project and accessing the design's responsiveness to the intended programs.

EDUCATIONAL SPECIFICATIONS CONTENT OUTLINE

Project Rationale
- The community
- School board policies
- Belief statements
- Scope of work, budget and schedule

Educational Plan
- Curriculum
- Instructional methods
- Staff support
- Technology

Project Design Factors
- Site conditions
- Building systems

Activity Areas
- General overview
- Program functions for each education and service program in the project

Summary of Spatial Relationships

Summary of Spatial Requirements
(Net and gross square feet)

Design, Construction, Occupancy, Evaluation

After the educational specifications have been completed and approved, the architect begins to transform them into a design for site development and the physical space of the building. The architect starts with a general, or schematic, view of the program and gradually develops a very specific response to the program requirements. Each design phase builds on the previous work and reflects a dynamic, collaborative process of interaction between the architect and the planning committee. The final design product is a set of instructions for contractors.

Pre-Design - When an architect assumes the responsibility for the design project, he/she assumes a set of requirements. The foundation of these is the educational specifications, but additional requirements are building codes, safety/ environmental regulations, local/state standards and procedures, constraints imposed by funding, and existing conditions. Often a preliminary meeting is held to identify and clarify the project requirements and to interpret the specifications for the consulting architect. The importance of the fine arts program spaces, as expressed in the educational specifications, should be emphasized at this meeting. The planning committee, the MSDE school facilities specialist, and the architect should be present.

Schematic Design - The schematic design phase develops two or more preliminary site and building design solutions, each meeting major program goals. Schematic designs are conceptual and derive from requirements set forth in the educational specifications and good architectural and engineering practice. In renovations, the architect should refer to the building condition report or other survey provided by the school system. The schematic design should specifically address fine art areas. The fine arts program specialists on the planning committee should monitor the schematic design closely for proper space development and the overall relationships between the fine arts program elements and other program spaces in the building. After evaluating alternatives, the planning committee selects one solution which the architect refines through a process of review and revision.

Design Development - During the design development phase, the basic elements articulated in the schematic design phase are developed and fine-tuned. The site development components are further detailed: building footprint and individual room dimensions are finalized; fixed furnishings and equipment are located; construction details are

begun; utilities and systems are developed and located; and all aspects of the project take on greater depth and sharper focus. The planning committee has an important role at this phase because design development represents the first opportunity to get into the details of the design and may be the last practical opportunity to make substantial changes in the project. If substantial changes to the design originate outside of the planning committee, they should be brought to the key decision makers of the general committee for evaluation and acceptance. Cost estimates, energy analyses, and other data are presented during design development. Decisions made at this stage are finalized and documented for coordination with mechanical, electrical, plumbing, acoustical, and theatrical consultants. This phase, like schematic design, will be formally reviewed at the local and state levels.

Construction Documents - During the construction document phase, the architect produces detailed documents which will form the contract for construction. The primary documents are construction drawings and written project manual or specifications. All systems and elements will be fully described, including demolition, sitework, structural work, roofing, doors, windows, finishes, equipment, plumbing, heating and cooling, fire protection, lighting, power, and electronic communications. A detailed cost estimate will be prepared.

Bid and Award - When the construction documents are complete, they will be reviewed at the local level. Locally approved documents will then be reviewed at the state level. Once approved, the project can be bid for construction in accordance with local and state procurement laws and policies. Award of a contract requires formal action by the local Board of Education and state officials resulting in a notice to proceed with construction.

Construction - During the construction of the facility, planning committee involvement is minimal. Significant changes to the project are unusual during construction but do sometimes occur due to unforeseen circumstances. Changes which affect the fine arts program areas in a substantive way should be brought back to the notice of the appropriate educational and technical staff by the local school system representative. During this period some members of the planning committee will develop furniture and equipment orders.

Installation of Furnishings and Equipment - Once the construction is substantially complete, furnishings and equipment are installed. Coordination among educational program specialists, purchasing agents, school operations staff, and the contractor is important. All warranties, operating manuals, training, and servicing of new components and systems must be obtained. After construction is complete, the staff can move into the facility.

Post-Occupancy Evaluations - A post-occupancy evaluation can be an invaluable learning tool. To evaluate the design, typically, a team visits the facility in the second year of occupancy. A standardized checklist forms the basis of the evaluation, but there should be provision for comments from users. The facilities planners will use this information to revise local standards. Future planning committees will benefit from the information. An evaluation of the planning-design-construction process can also be extremely useful to the school board staff. Interactions between the many government agencies and school system departments, such as facilities, purchasing, and instructional technology, involved in the process are critical to the success of subsequent projects.

State Funded Projects

The State of Maryland provides construction funding to school systems through the Public School Construction Program (PSCP) governed by the Interagency Committee (IAC). Projects may be funded through PSCP as part of a new school construction, a renovation, or an addition to an existing school. PSCP staff and staff from supporting agencies - the Maryland State Department of Education, the Maryland Office of Planning, and the Department of General Services - are available to assist in all phases of project development. Refer to the PSCP Administrative Procedures Guide for more information.

Locally Funded Projects

Maryland public school construction projects funded locally by county or city government and costing more than $350,000 require the approval of the State Superintendent of Schools. Refer to Code of Maryland Regulations (COMAR) 13A.01.02.03 for requirements. A MSDE School Facilities Specialist participates in all phases of planning and design and coordinates the State review and approval for the following submissions:

- Educational Specifications
- Schematic Design
- Design Development
- Construction Documents
- Contract Award
- Change Orders Over $25,000

"Every child is an artist. The problem is how to remain an artist when he grows up."

Pablo Picasso

Chapter 3
Designing Fine Arts Spaces

Planning Concepts and Trends

The historical emphasis on music and visual art has been expanded to include dance and theatre as equally important components of a fine arts program.

While visual arts and music facilities have been provided in schools for decades, typically only the largest high schools provided strong programs and specialized facilities for dance and theatre. Program offerings are frequently dependent on the availability and training of individual teachers. While curriculum specialists work to incorporate dance and theatre into all elementary, middle, and high school programs and recruit good teachers, facilities planners must incorporate appropriate spaces for all four disciplines into each school building. This is a "chicken and egg" period. Curriculum specialists ask for dedicated spaces to start new programs and school boards cannot afford to provide them until the programs exist. The practical solution is to closely coordinate design requirements and intentionally design some spaces to be shared until full staffing levels are reached. In the case of dance, we recommend designing a room suitable for dance instruction in every school that may be used more by physical education or other programs in the early years. Similarly, design a room for theatre instruction in every school recognizing it may be used for general education or other programs for some time.

With the increasing use of technology in society, fine arts programs have also changed.

In addition to traditional media and performance techniques, students must be given the opportunity to work with new equipment, settings, and technology. This includes computer graphics, digital music, video recording, etc.

Facilities and program planners must weigh the ability of their school system to construct and maintain updated, advanced, fine arts facilities over many years verses the alternative of creating business, community, or other education partnerships that offer students access to and use of state-of-the-art facilities.

Advanced dance, theater, visual arts, and music programs may require sophisticated, professional performance, recording, and production facilities not typically available in public schools. Programmatic alternatives may include centralized school board facilities for performances or television production or internships in businesses and higher education facilities such as television studios, orchestra halls, theatre companies, commercial photography labs, audio and video recording studios, printing companies, etc.

As a public building, the school design must include features to make shared use successful.

Community arts groups will use school spaces for after-school and weekend classes and performances. They may demand more sophisticated staging and will need waiting areas, restrooms, warm-up areas, adult-sized comfortable seats, coordinator's offices, and lockable, long-term storage. Additional public and/or private funding may be available to support cooperative arrangements.

All fine arts educational and public facilities must be accessible for teachers, students, and visitors with disabilities.

Compliance with the Americans with Disabilities Act Accessibility Guidelines and the Maryland Accessibility Code are required. Typically five percent of any built-in or fixed equipment must be accessible. Accessible seating should be in a variety of locations throughout the performance space.

Planning Minimums

Number Of Classrooms

The number of classrooms to be provided in a school depends on the numbers of students, courses, and teachers. School board policies and funding, enrollments, and individual school needs determine the number of teachers assigned to each school. Under school based management approaches, the local principal makes key decisions on staffing.

School planners use the term "teaching station" for the area where a teacher and students meet for regularly scheduled classes. It is applied to many types of space as varied as general purpose classrooms, lecture halls, science laboratories, gymnasiums, art studios, band rooms, and auto shops.

In most elementary and middle school settings, planners provide one teaching station for each full time equivalent (FTE) teacher. For example, if there are two music teachers each teaching four out of five days a week, provide two music rooms. (2 teachers x 80% time = 1.6 ~ 2 rooms) While teacher planning rooms may be provided for team or grade level meetings, and may be required by contract, each teacher usually has office space in the classroom.

High school settings are more likely to include "floating" teachers. To maximize utilization, many teaching stations are used by more than one teacher during the course of a school day. If space is no object, each full time teacher may have his/her "own" teaching station. More commonly, space is limited and teaching stations are shared. In addition to teacher planning rooms for departmental and team meetings, office space has to be provided in other areas for many individual teachers. In such a case a school planner could achieve parity across departments by providing one teaching station for every 1.2 teachers in each department. For example, the Mathematics department with 10 FTE teachers would be allocated 8 classrooms. (10 teachers / 1.2 = 8.3 ~ 8 rooms)

Determining the number of teaching stations for fine arts programs requires consideration of three additional factors, 1) the specialized nature and unique architectural requirements of the programs, 2) the desire to offer studies in each of the four fine arts content areas recognized by the State of Maryland, 3) the balance between program needs and funding. Each teaching station planned increases the size of the proposed new school or addition and thus increases the initial costs for construction, furniture, and equipment and the long-term costs for maintenance and operations. Public school construction in Maryland is funded by a combination of State and local government funds. State funding through the PSCP is determined by a formula that addresses the proposed enrollment of the school, a gross square foot area allowance per student, an average cost per square foot that is adjusted annually, and a state/local sharing percentage based on the wealth of the local jurisdiction. The State funding can only be applied to eligible construction costs. In addition to the local share of construction costs, the local government funds all costs for site acquisition, design services, furnishings, and moveable equipment.

Maryland typically does not establish required space standards for educational programs. MSDE issues guidelines such as this document with recommendations for school systems and architects. The maximum gross area allowance determined by the PSCP is not a State minimum space design standard. The realities of funding often limit school systems to the gross area allowance when the county or city authorities agree to fund only the share that will be matched by the State. Although some local jurisdictions are able to build schools larger than the State maximum gross area allowance, in most cases, each proposed teaching station is closely evaluated. Spaces perceived as "extra" or "excessive" are eliminated or reduced in size. Fine arts spaces are particularly susceptible since they are large. Members of the planning committee must be prepared to justify the spaces they request and recognize the need to balance fine arts program needs with funding and other educational program demands for the improvement of the entire school. Minimum guidelines are outlined below. Most schools will have strong programs with several teachers and large numbers of students participating in one or more of the fine arts areas. Most schools will need more than the minimum number of spaces in those areas.

Elementary School Spaces

To support the Maryland Fine Arts Program standards provide in each elementary school at least:

- 1 shared-use dance/physical education/activities room
- 1 music room
- 1 shared use theatre/general classroom
- 1 visual arts room
- 1 shared-use performance room (may be same as dance/physical education/activities room)
- Storage rooms
- Teacher planning areas

One room designed for dance with adequate space, impact absorbing, resilient flooring, a mirrored wall and tape/compact disc (CD) system that may be shared with other programs such as physical education and community activities.

One dedicated music room with appropriate acoustics, adequate space, and Musical Instrument Digital Interface (MIDI) keyboard connections, in addition to facilities for music in the general classrooms such as tape/CD players and folk instruments.

One space suitable for theatre instruction with adequate space and a sink that may be shared with general education activities.

One dedicated visual arts room with appropriate finishes, sinks, display areas and adequate space, in addition to facilities for art in the general classrooms such as drawing and painting materials and sinks.

One space suitable for theatrical, musical, and dance performances by students in front of an audience with appropriate acoustics, a platform stage, and adequate space, that may be shared with other programs such as physical education, community activities, and food services.

Dedicated storage rooms with appropriate fittings for each discipline offered - dance, music, theatre, and visual arts.

Dedicated planning and personal storage space for each teacher in each discipline - dance, music, theatre, and visual arts.

Middle School Spaces

To support the Maryland fine arts program standards provide in each middle school at least:

- 1 shared-use dance/physical education/activities room
- 1 general/choral/instrumental music room
- 1 shared-use theatre/general classroom
- 1 visual arts room
- 1 shared-use performance room
- Storage rooms
- Teacher planning areas

One room designed for dance with adequate space, impact absorbing, resilient flooring, and a mirrored wall, and tape/CD system that may be shared with other programs such as physical education and community activities.

One dedicated general/choral/instrumental music room with appropriate acoustics, MIDI keyboard connections, and adequate space for large groups.

One space suitable for theatre instruction with adequate space and a sink that may be shared with general education activities.

One dedicated visual arts room with appropriate finishes, sinks, display areas, and adequate space.

One space suitable for theatrical, musical, and dance performances by students in front of an audience with appropriate acoustics, a platform stage, and adequate space, that may be shared with other programs such as physical education, community activities, and food services.

Dedicated storage rooms for each teaching station with appropriate fittings for each discipline - dance, music, theatre, and visual arts.

Dedicated planning and personal storage space for each teacher in each discipline - dance, music, theatre, and visual arts.

High School Spaces

To support the Maryland fine arts program standards provide in each high school at least:

- 1 dance room
- 1 choral music room
- 1 instrumental music room
- 1 theatre classroom
- 1 two-dimensional visual arts room
- 1 three-dimensional visual arts room
- 1 performance hall/auditorium/theatre with full stage and production areas
- Storage rooms
- Teacher planning areas

One dedicated dance room with adequate space, resilient flooring, a mirrored wall, and tape/CD system.

One dedicated choral music room with appropriate acoustics, MIDI keyboard connections, and adequate space for large groups.

One dedicated instrumental music room with appropriate acoustics, MIDI keyboard connections, and adequate space for large groups and ensembles.

One theatre classroom with appropriate acoustics and adequate space for movement activities.

One dedicated visual arts room for two-dimensional work with appropriate finishes, sinks, adequate space, and display areas.

One dedicated visual arts room for three-dimensional work with appropriate finishes, sinks, adequate space, and display areas.

One performance space suitable for theatrical, musical, and dance performances by students in front of an audience with appropriate acoustics, stage, wings, and production space.

Dedicated storage rooms for each teaching station with appropriate fittings for each discipline - dance, general, choral, and instrumental music, theatre, and visual arts.

Dedicated planning and personal storage space for each teacher in each discipline - dance, instrumental music, theatre, and visual arts.

Recommended Minimum Number of Spaces

	Elementary	Middle	High
Dance Instruction	1, shared	1, shared	1
Music Instruction	1	1	1 choral 1 instrumental
Theatre Instruction	1, shared	1, shared	1
Visual Arts Instruction	1	1	1 two-D 1 three-D
Dance/Music/Theatre/Visual Arts Storage Rooms	4	4	6
Dance/Music/Theatre/Visual Arts Teacher Planning Areas	4	4	6

Planning Performance Spaces

Need

Creative expression, creative production and aesthetic criticism are outcomes in all the fine arts programs - dance, music, theatre, and visual arts. Students of dance, music, and theatre have an obvious need to perform before an audience, but they are not alone. Throughout education there is an increasing emphasis on the demonstration of competence. Students in many disciplines are being asked to maintain portfolios of work and to present their findings to their classmates and the wider community. Schools are using auditoriums, lecture halls, television studios, mini-theatres, classrooms, and conference rooms for these presentations, these "performances". Multi-media presentations are the norm.

Design Conflicts

Elementary, middle, and high schools all have needs for performance space. The planning difficulty comes in reconciling the needs of the art form (lighting, degree of intimacy, acoustics), the audience (comfort, length of performance, sight lines, acoustics) the school administration (audience seating capacity, supervision), and the budget (moderate, at best). Most public schools cannot afford the number and variety of facilities you would find at a university or civic center. For example, the new performing arts center at the University of Maryland College Park includes six performance spaces each uniquely designed for a specific type of art - a concert hall, a recital hall, a dance performance hall, a traditional theatre, an experimental theatre, and a black box theatre. In general, elementary and middle schools require multiple use of performing spaces that results in compromise. High school performance space is less compromised. The typical elementary or middle school will have a multipurpose room or "cafetorium" which may also be used for physical education. This arrangement maximizes seating capacity but typically minimizes the audience's ability to see and hear the children on stage. A typical high school will have an auditorium with a good sized stage, adequate sound and light systems, minimal backstage and public support areas, and a large house with frequently narrow, unpadded seats that are filled to capacity only a few times a year.

Trends

There is a trend to design the stage for regular use as a teaching station by adding tack and marker boards on the walls behind stage curtains and providing general fluorescent lights. While this option may work for some programs, it is generally better to avoid scheduling any regular instruction on a stage. The stage is not good for daily instruction. When classes are scheduled on the stage, it becomes unavailable for performance. Productions which are scheduled to run consecutive nights or weekends either must dismantle daily, or the scheduled class must relocate. Acoustics and lighting are poor for most instruction. Especially in a multipurpose room setting, sound cannot be contained within the limits of the stage disturbing other users.

In high schools there is a trend to reduce the size of the house from seating the entire student body to seating half the student body. In Maryland, that equates to 600 to 750 seats, still too large to provide good acoustics for speech and music without the addition of shells, canopies, and amplification.

There is also a trend to include a mini-theatre or "black box" theatre seating approximately 100 persons envisioned for use by many for disciplines, daily instruction, and frequent performances. Mini-theatres have the potential to create a more intimate atmosphere and allow construction dollars that would have been spent on an overly large house to go into additional support facilities.

Planning

The planning committee must pay extra attention to the educational specifications for the performance areas in the school to resolve the inherent conflicts of multiple uses and multiple users. Excellent acoustics are difficult to provide in a multipurpose room, but can be moderately good with careful design. Lighting can be acceptable if designed for performance and general use. Auditorium and theatre design is highly specialized and technical.

In many cases, hiring professional theatre design and acoustics consultants will be essential. In other situations, advice from local theatrical sound and lighting suppliers may be sufficient. In all cases, the committee should consult with local experts from both the school system and the amateur/professional arts community. An excellent reference for facilities planners is "Theaters and Auditoriums" by Harold Burris - Meyer and Edward C. Cole, first published by Reinhold Publishing Corporation in 1949 and revised in 1964.

Begin planning with a detailed survey of the needs of the school and outside users, recent performance history, actual attendance figures, and realistic estimates of future activities.

1. What kind of events will occur? Music? Drama? Dance? Assemblies? Lectures? Town meetings? Film? Festivals?

2. How many performances will be offered? Two a month? Eight a year? One a week?

3. Who will be running the sound, lighting, and rigging systems? A teacher? A technical manager? The level of supervision available will determine the nature and sophistication of the stage equipment.

4. What is the educational focus? Performance? Technical Skills?

5. What kind and level of recording will be used? Audio? Video? Analog? Digital?

Continue planning by defining the school's priorities in writing. Then, with the programmatic needs identified, the premises for design will follow. For example:

School A's priorities are: 1) live dance, music, and theatre performances by high school students. 2) other school functions such as assemblies and lectures. 3) community use by amateur choral groups. The school's program is a 1,200 - 1,400 student high school with a strong fine arts department producing annually one drama, one musical, two choral concerts with various sized groups, two instrumental concerts with various sized orchestra, bands, and ensembles, and two dance concerts. The demand for music performance space outweighs the demand for drama and dance. School assembly and community uses are limited. The educational plan is to offer repeat performances and long runs to give the students practical experience.

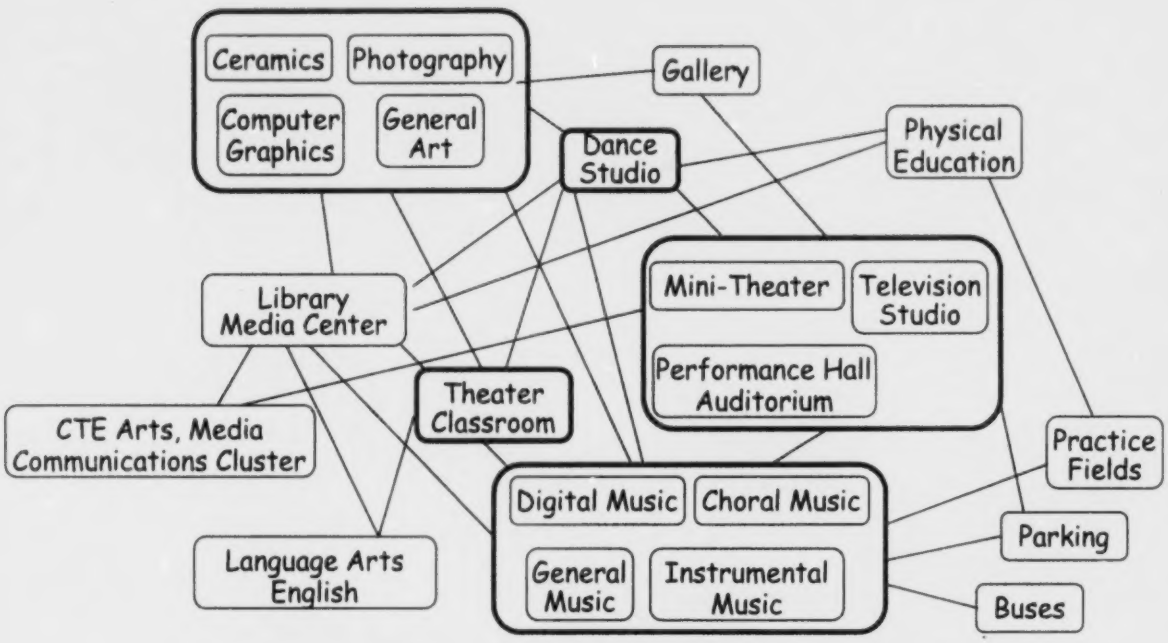
The premises for design are to: 1) Provide excellent acoustics for music and speech without added shells/ canopies or electronic amplification. 2) Provide full compliment of back stage support spaces. 3) Provide full compliment of audience amenities for comfort and public support.

The planning solution is to specify a "performance hall" similar to a music recital hall with an open stage in a single high, rectangular room, seating one grade level or less, no more than 350.

School B, on the other hand, holds numerous assemblies, relatively few school music productions, but has an active community theatre anxious to rent the new space. School B's planning solution is to specify a traditional auditorium large enough to seat half the total school enrollment with a proscenium stage and partial fly space. For music concerts, the stage requires the use of a shell to project sound to the audience and prevent it from dissipating into the volume behind the proscenium.

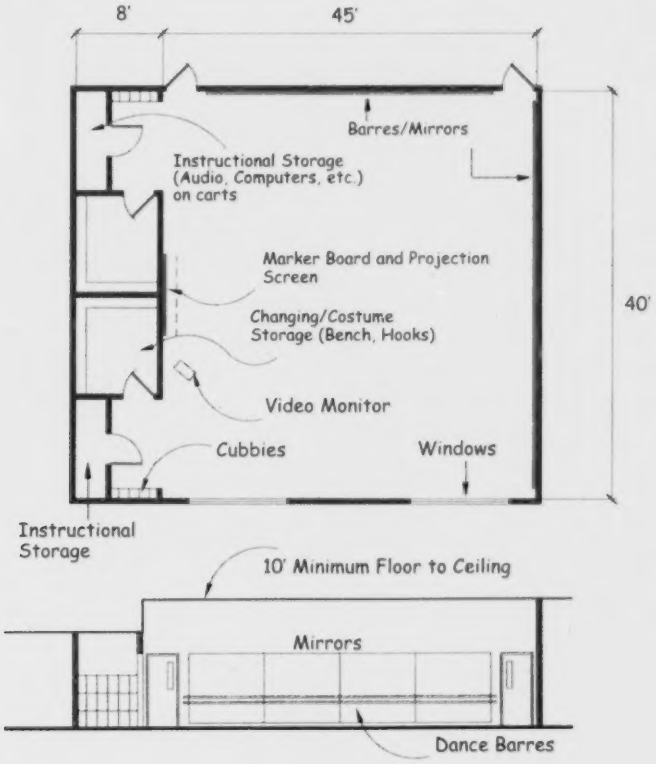
Six "performance spaces" are described in these guidelines:

- Multipurpose room, seating 300
- Performance Hall, seating 350
- Auditorium, seating 750
- Black Box Theatre, seating 25-150
- Mini-Theatre, seating 25-150
- Television Studio, seating 10-40



High School Space Relationships

Room: Dance Studio



Activities: Middle and high school instruction in dance technique, improvisation, and choreography. Most classes performed in bare feet or soft soled dance shoes. After-school aerobics classes performed in sports shoes.

Users: Class groups of 18 - 20, one teacher.

Area, Height, Configuration: 1,800 - 2,000 s.f. minimum at 100 s.f. per person, based on approximately 10 feet between dancers plus a 10-foot wide dance instructor's zone at front. Plus 350 s.f. storage/support area. See below. Rectangular to nearly square shape. Dance floor unobstructed by instructional technology devices, desks or audio equipment. Ceiling 10 feet or more to accommodate lifts. For safety, doors must not swing into the dance floor.

Alternative Configuration: Provide additional space at one side of studio near entries for audience seating 50-75 person on steep, fixed, or pull-out risers. Increase ceiling height accordingly.

Relationships: Convenient to performing areas, gymnasium, fitness-training rooms, restrooms, dressing rooms, showers, dance teacher planning and storage. Noise and structural barriers to adjacent rooms required to block music, percussion instruments, and floor impact vibrations. Natural light desirable.

Display: Chalk/dry erase marker boards, tack boards near entrance, retractable projection screen, television with VCR on "teaching wall". For safety, boards should not have trays.

Storage: Provide 350 s.f. storage area. Cubbies/ hooks/lockers near entrance for student backpacks, clothing, shoes (50 s.f.). Instructional storage with lockable cabinets for tapes, CD players, other instructional materials and moveable carts for instructional technology devices (120 s.f.). Hanging and shelf storage for costumes and props (50 s.f.). Changing rooms with benches and hooks or lockers (Two (male/female) at 75 s.f. each, 150 s.f.).

Finishes: Floor firm but resilient with impact absorption and lateral foot support. Use a portable, heavy duty, vinyl dance flooring with a non-slip surface on foam backing placed on resilient floating wood subfloor or permanent floor of strip maple or fully tempered hardboard. Ceiling acoustically absorbent. One or two walls mirrored - mirrors 6 feet high, 24 feet long, bottom 2 inches above floor. Soft colors. Note: Some foam backed floors are not desirable for tap classes because they muffle tap sound and may be damaged by defective taps. A separate room may be required for tap classes.

Equipment: Wall-mounted or floor-mounted stretching barres opposite mirrors at 34 and 42 inches above floor, moveable bars on floor stands (optional), voice amplification for instructor, good quality sound system for audiotape and CD with duplication capability, mounted speakers preferred, video player, piano (optional), overhead projector, computers, printer, television.

Furnishings: Room darkening draperies, shades, or blinds for AV presentations. Storage units for items noted above.

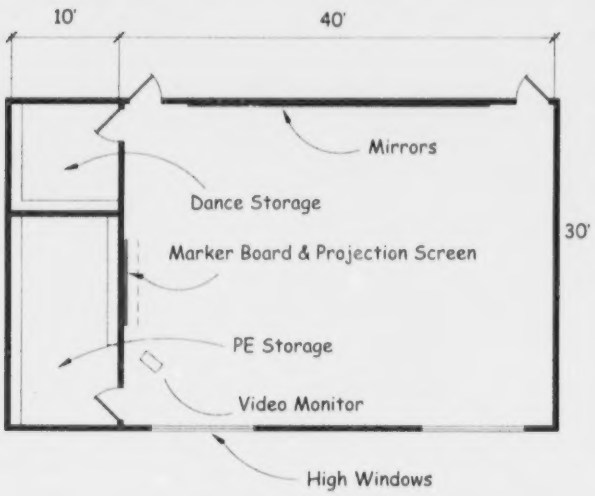
Mechanical/Plumbing: Active environment requires high-ventilation rate and air-conditioning, quiet HVAC systems with thermostat in room. Convenient access to drinking fountain and water.

Electrical/Lighting: Well-lighted with variable lighting levels. Natural light desirable, non-glare, North-light preferred. Typical voice, video, data connections with outlets on all walls.

Dance Studio

Wilde Lake High
Howard County

Room: Dance and Physical Education Activity Room



Activities: Elementary/middle school instruction in dance and movement, may be shared with physical education, theatre, and music programs, often used by community recreation programs after school hours.

Users: Class groups of 25-30, one teacher

Area, Height, Configuration: 1,200 s.f. minimum, at least 30 ft x 40 ft unobstructed space large enough for 30 students, ceiling 10 ft minimum. Plus 100 s.f. storage. See Below. Dedicated space rarely provided, typically use gymnasium, auxiliary gym, activity room and/or stage. Note: Cafeteria dining/multi-purpose rooms with hard floors are not suitable for prolonged, high impact dance or physical education instruction because of the potential for knee and other injuries.

Relationships: Convenient to drinking fountain, rest rooms, locker/dressing rooms, dance teacher planning and storage.

Display: Tack board, chalk/dry erase marker boards, retractable projection screen, TV/VCR.

Storage: Provide approximately 100 s.f. dedicated storage room for dance program in addition to dance area above. Cubbies/hooks/ lockers for student storage. Cabinets with locks for music and equipment. Moveable carts for instructional technology devices. Hanging and shelf storage for costumes and props. Provide separate lockable storage for physical education, community groups, and other users of space.

Finishes: Resilient floor with impact absorption and lateral foot support. One or two mirrored walls. Acoustically absorbent ceiling.

Equipment: Adjustable dance barres (optional). Good quality sound system for audiotape and CD with duplication capability, mounted speakers preferred, VCR and TV, overhead projector, computer and printer, various percussion instruments.

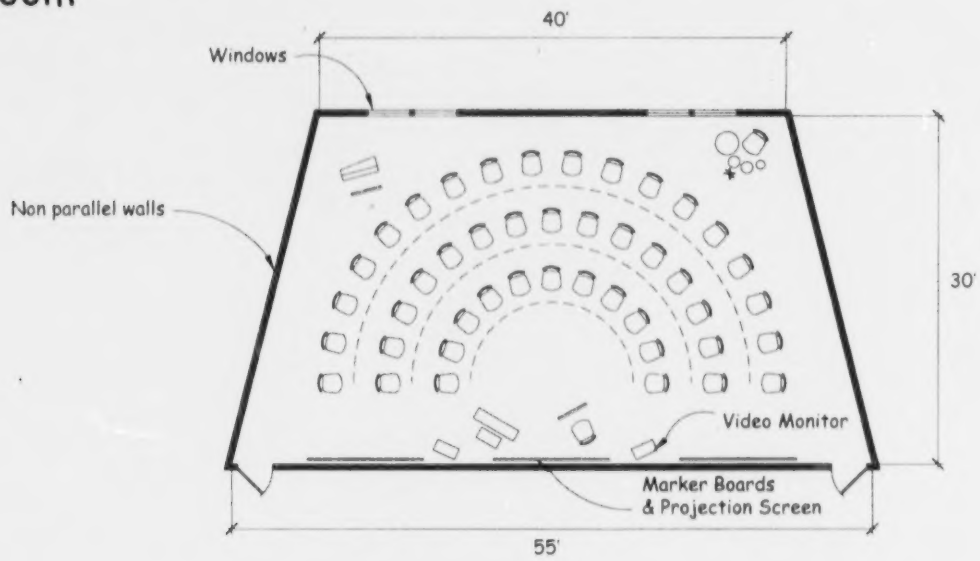
Furnishings: Same as Dance Studio.

Mechanical/Plumbing: Same as Dance Studio.

Electrical/Lighting: Same as Dance Studio.

Costume Storage — Dulaney High Baltimore County

Room: Instrumental Music Room



Activities: Middle and High School band/ orchestra/ensemble instruction and rehearsals, general music classes, individual/group lessons, recording sessions,

Users: Class groups of 25 - 30, ensembles of 8 - 90, lessons of 1-10, one teacher.

Area, Height, Volume, Configuration: Provide typical chair spacing 30-36 inches side to side, 48-60 inches back to back. Provide 12-16 foot clear zone for sound resonance between front row of musicians and front wall. Provide 6 feet clear at sides and back of room. Volume of room is critical to sound quality. 14 foot ceiling height minimum, 420 c.f./student minimum. 18-22 foot ceiling height recommended, 550-700 c.f./student recommended. Room shape rectangular or irregular, not square. Non-parallel walls are helpful. A ten percent offset is minimal but effective. Some absorbent material on walls is desirable. Flat floor preferred. No permanent risers. Provide wide doors and unobstructed traffic patterns for moving bulky equipment/instruments with separate entrance and exit doors.

To program the size of the room, determine size of largest regular group and use chair spacing, borders, and volume criteria described above.

For 30 students, provide 1,110 s.f. minimum with 14 foot ceiling height minimum (518 c.f./student, 39 s.f./ student).

For groups of 48 or more use 30 s.f./student minimum, 14 foot ceiling height minimum, 16 foot preferred. 420 c.f./student minimum.

Relationships: Adjacent to instrument storage, teacher planning. Students flow from corridors past teacher planning into instrument storage room then out into instrumental music rooms. Near music library, instrument repair, individual practice rooms, other music classrooms, uniform storage, stage dressing and toilet rooms, bus parking, practice fields. Provide doors in exterior wall for access to buses for trips, outdoor functions and marching band practice. With proper location of exterior lighting poles, nearby parking lots may be painted with stripes and used for marching band practice sessions.

Preferably on ground floor, at same level as performance hall, and convenient to other fine arts areas. Buffer with non-performance areas to isolate sound. Perimeter walls must be designed to isolate this space acoustically.

Display: Limited area of chalk/dry erase marker board near teacher with music staves, tack boards near entrance, retractable projection screen, television with VCR. Two televisions may be required in large rooms.

Storage: Floor space for extra music stands and chairs, student book bags, and instrument cases. Cubbies for music folios. Lockable cabinets for tapes, CDs, players, and other instructional materials.

Finishes: To be coordinated with, or selected by, acoustical designer. Suspended absorbent fiberglass ceiling panels desirable. Some reflective ceiling surfaces desirable. Combination of absorbent and diffuser panels on walls. Avoid storage cabinets with solid doors. Provide hard finish flooring. Light colored floor to minimize contrast with music sheets. Ideally, doors should have accoustical rating equal to walls. At a minimum provide acoustic door seals.

Equipment: Piano, good quality sound system for audiotape and CD video player, computers, printer, television, overhead projector.

Furnishings: Music stands, posture chairs, and stools. Conductor podium and chair. Portable seated risers optional.

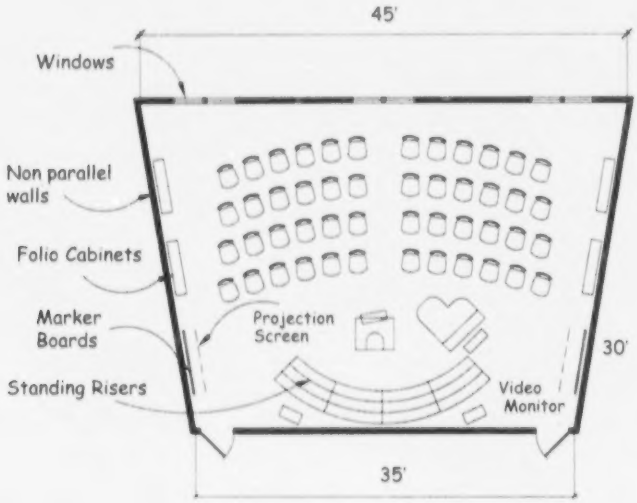
Mechanical/Plumbing: Active environment requires high ventilation rate. Provide large ducts and vents, low vibration equipment connections and isolated branching. No sound transmission through ducts from room to room. Temperature control 68-74 degrees. Humidity control desirable 40-50%. Locate drinking fountain outside room to avoid compressor noise.

Electrical/Lighting: Well lighted for reading sheet music on stands, 70-100 foot candles, variable lighting levels for audiovisual presentations. Use electronic, quiet ballasts for fluorescent lights. Natural light desirable, but minimize windows to avoid glare, high contrast, and sound leakage. Wiring and outlets for microphones, recorders, speakers and MIDI keyboard connections. Typical voice, video, data connections. Provide space for MIDI set up at teachers desk. Provide student access to telephone after hours.

Instrumental Music Room

J. H. Blake High
Montgomery County

Room: Choral Music Room



Activities: Middle and high school choral music instruction including relaxation and vocal exercises and limited choreography, general music classes, individual/group lessons, recording sessions.

Users: Class groups of 25 - 30, ensembles of 10 - 90, lessons of 1-10, one teacher

Area, Height, Volume, Configuration: Provide typical chair spacing 30 inches from side to side and 36-42 inches back to back. Provide 10-15 foot resonance zone between front row of musicians and front wall. Provide 36 inches minimum at sides and back. Volume of room is critical to sound quality. 12 foot height minimum, 350 c.f./student minimum, 25 s.f./student recommended, 14-16 foot height recommended, 350-500 c.f./student recommended. Room shape rectangular or irregular. Flat floor with portable risers preferred. No permanent risers. Provide wide doors and unobstructed traffic patterns for moving bulky equipment/instruments with separate entrance and exit doors.

To program the size of the room, determine size of largest group and use chair spacing, borders, and volume criteria described above.

For 30 students provide 875 s.f. minimum with 12 foot ceiling height minimum (350 c.f./student, 29 s.f./student).

For 48 students provide 1,200 s.f. minimum with 14 ft. ceiling height (350 c.f./student, 25 s.f./student).

For groups of more than 48 students, use 25 s.f. per student, 14 ft. ceiling minimum.

Relationships: Adjacent to teacher planning and music library. Near other music classrooms, practice rooms, performance spaces, robe/costume storage, dressing and toilet rooms. Buffer with non-performance rooms to isolate sound. Perimeter walls must be designed to acoustically isolate this space.

Display: Limited area of chalk/dry erase marker board near teacher with music staves, tack boards near entrance, retractable projection screen, television with VCR.

Storage: Floor space for extra chairs and student book bags. Cubbies for music folders near entrance. Lockable cabinets for tapes, CDs, players, and other instructional materials. Shelving and file cabinets for sheet music and bound collections.

Finishes: To be coordinated with, or selected by, acoustical designer. Suspended absorbent fiberglass ceiling panels desirable. Some reflective ceiling surfaces desirable. Combination of absorbent and diffuser panels on walls. Avoid storage cabinets with solid doors. Provide hard finish flooring. Light colored floor to minimize contrast with music sheets. Doors acoustical rating equal to walls.

Equipment: Piano, good quality sound system for audiotape and CD, video player, computers, printer, television, overhead projector.

Furnishings: Posture chairs preferred. Folding tablet arm chairs possible. Conductor podium and chair. Portable seated risers (6-10 inch rise, 32-40 inch run) recommended, portable standing risers recommended. Note: All areas of room must be accessible to students with disabilities.

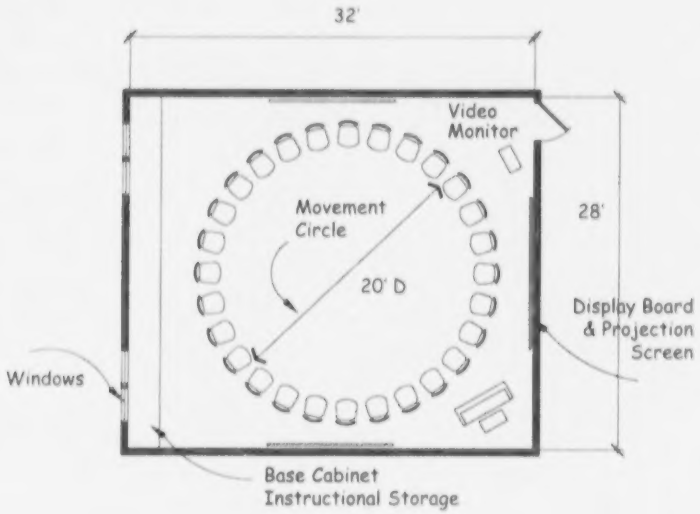
Mechanical/Plumbing: Active environment requires high ventilation rate. Provide large ducts and vents, low vibration equipment connections and isolated branching. No sound transmission through ducts from room to room. Temperature control 68-74 degrees F. Humidity control desirable 40-50%. Locate drinking fountain outside room to avoid compressor noise.

Electrical/Lighting: Well lighted for reading sheet music, 70-100 foot candles, variable lighting levels for audiovisual presentations. Use electronic, quiet ballasts for fluorescent lights, natural light desirable, but minimize windows to avoid glare, high contrast, and sound leakage. Wiring and outlets for microphones, recorders, speakers and MIDI keyboard connections. Typical voice, video, data connections. Provide space for MIDI set up at teachers desk. Provide student access to telephone after hours.

Choral Music Room w/Mirrors for Show Choir

J.H. Blake High
Montgomery County

Room: Elementary Music Room



Activities: Elementary music instruction and rehearsal including singing, playing instruments, dance movements and listening.

Users: Class groups of 25-30, vocal and instrumental performing groups of 10-60, lessons of 1-10, one teacher.

Area, Height, Configuration: Provide 350 c.f./student minimum, 12 ft. ceiling height minimum. For typical class of 30 students, provide 875 s.f. minimum. Provide 20 foot diameter clear floor space in center of room for movement activities. Refer also to Choral Music Room description.

Relationships: Convenient to teacher planning. Near performance space and other fine arts rooms. Buffer with non-performance rooms to isolate sound.

Display: Same as Choral Music Room.

Storage: Same as Choral Music Room.

Finishes: Same as Choral Music Room.

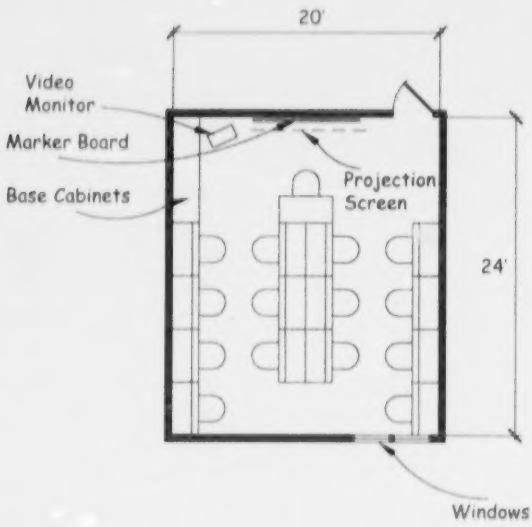
Equipment: Same as Choral Music Room.

Furnishings: Easily moveable posture chairs, conductor music standard and chair, portable standing risers desirable.

Mechanical/Plumbing: Same as Choral Music Room.

Electrical/Lighting: Same as Choral Music

Room: Digital Music Room



Activities: Middle and high school instruction in piano, music theory, composition, recording practice, and independent study using electronic musical instrument digital interface (MIDI) technology. Most class listening through head phones.

Users: 10-25 students, one teacher.

Area, Height, Configuration: 35-45 s.f./ workstation, 500-750 s.f. minimum, typical classroom height, provide teaching wall and teacher keyboard MIDI workstation.

Relationships: Convenient to teacher planning and other music rooms. May have vision panels to allow view into adjacent teaching spaces.

Display: Similar to typical classroom - dry erase marker/tack boards, television, VCR retractable projection screen, at least one board with music staves.

Storage: Cubbies/cabinets/shelves for student book bags, sheet music and books. Lockable cabinets for tapes, CDs, players, and other instructional materials.

Finishes: Similar to typical classroom - suspended acoustic tile ceiling, painted CMU or drywall walls, VCT, or carpet flooring.

Equipment: Electronic digital pianos, keyboards, guitars, or other instruments. MIDI computer workstations, digital wave synthesizer, amplifier, speakers, printer. Good quality sound system for audiotape and CD, video player, television, overhead projector.

Furnishings: Workstations for keyboard, computer, monitor, and chairs.

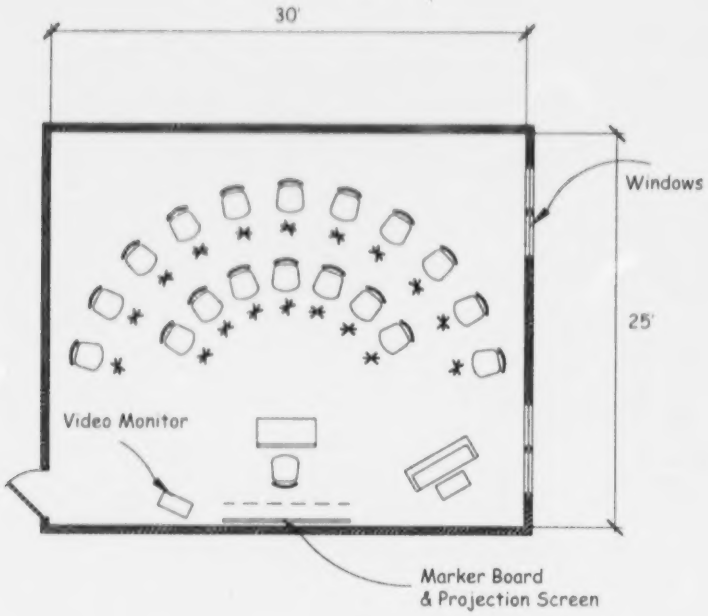
Mechanical/Plumbing: HVAC requirements similar to typical computer laboratories

Electrical/Lighting: Similar to typical computer laboratories, surge protected power, multiple power outlets, indirect, glare-free lighting. Typical voice, video, and data connections.

MIDI Laboratory

J. H. Blake High
Montgomery County

Room: Ensemble Music Room



Activities: Middle and high school instrumental or choral instruction and rehearsals, general music classes, individual/group lessons, recording sessions.

Users: Performing groups or classes of 8-20, lessons of 1-10, one teacher.

Area, Height, Configuration: Provide 420 c.f./student minimum, 14 ft. ceiling height minimum.

To program space determine size of largest regular group and use chair spacing, borders, height, and volume criteria described under Instrumental Music Room.

For typical groups of 20 students, provide 750 s.f. minimum with 14 ft. ceiling height minimum (525 c.f./ student, 38 s.f./student).

Relationships: Same as Instrumental Music Room.

Display: Same as Instrumental Music Room.

Storage: Same as Instrumental Music Room.

Finishes: Same as Instrumental Music Room.

Equipment: Same as Instrumental Music Room.

Furnishings: Same as Instrumental Music Room.

Mechanical/Plumbing: Same as Instrumental Music Room.

Electrical/Lighting: Same as Instrumental Music Room.

Room: Music Practice Room

Activities: Independent vocal or instrumental practice.

Users: One to four students.

Area, Height, Configuration: 65-125 s.f., 9-10 ft. ceiling height minimum, non-parallel walls, prefabricated units may be used. Provide one to four practice rooms in typical high school.

Relationships: For most independent use locate near music rooms with entrances on to corridor, not directly into larger rehearsal rooms. Buffered with non-performing areas to isolate sound. Doors visible to music teachers in other rooms. Windows in doors. Sound isolate each practice room.

Display: Small tack board, small marker board. Small mirror.

Storage: Hooks or cubbies for temporary storage of student belongings.

Finishes: Sound absorbing ceiling, floor, and wall finishes. Acoustic seals on doors.

Equipment: N/A

Furnishings: Posture chairs, music stands, piano with bench.

Mechanical/Plumbing: Quiet HVAC.

Electrical/Lighting: 70-100 foot candles lighting, quiet fluorescent ballasts. Voice, video, data, and MIDI connections. Receptacles in common wall between rooms should always be staggered.

Room: Music Library

Activities: Sheet music labeling, sorting, filing, and long-term storage.

Users: Group members, teachers, assistants.

Area, Height, Configuration: Approximately 80-400 s.f. using standard file cabinets and shelving. Determine size of existing collection and allow for growth. Provide 3 ft. minimum aisle between storage units with minimum 5 ft. diameter turnaround space. Arrange to maximize storage capacity. Provide counter or table work surface for boxing and sorting music or space for sorting carts.

Relationships: Convenient to music rehearsal rooms and teacher planning. Use to buffer sound between performance areas.

Display: Minimal, a small tack/notice board useful.

Storage: Standard or high density file cabinets, adjustable shelves to accommodate sheet music, portfolios, and music charts of various size and thickness.

Finishes: N/A

Equipment: Mobile sorting carts convenient.

Furnishings: N/A

Mechanical/Plumbing: Ventilation, temperature, and moisture control for long-term paper storage and work comfort.

Electrical/Lighting: Sufficient lighting for sorting and filing.

Room: Instrument Repair Area

Activities: Minor repairs of student and school owned instruments by teacher.

Users: Teacher.

Area, Height, Configuration: Approximately 60 s.f.. Provide six foot padded work bench or counter at least 24 inches wide to accommodate instruments as large as tubas. Provide one sink.

Relationships: Locate in a secure area where instruments can be left undisturbed.

Display: Provide small tack or peg board.

Storage: Provide drawers and cabinets for tools, parts, and equipment.

Finishes: Clean and sealed.

Equipment: N/A

Furnishings: Workbench and chair or stool.

Mechanical/Plumbing: Sink.

Electrical/Lighting: Ground Fault Interruptor (GFI) outlets at bench, adjustable task lighting.

Room: Instrument Storage Room

Activities: Temporary and long-term storage of student and school owned instruments.

Users: Students, teachers.

Area, Height, Configuration: Approximately 600-800 s.f. or 4 s.f. per instrument. Area of room(s) may vary considerably from school to school. Provide lockers/cabinets in a variety of sizes for mix of instruments. Provide separate storage room for string instruments, where possible, with humidity and temperature controls.

Relationships: Near entrance to main instrumental rehearsal room convenient for students to drop off and pick up instruments. Room will be congested at start and end of class. Two doors for in and out traffic are convenient. Provide locks and visual control by teachers. Integrate small and large cabinets to improve access by students. Although not the best solution for acoustics and student access, some instrument storage may be along one wall of the instrumental music room for ease of access. Open front cabinets or wire mesh doors on cabinets will help deflect sound and avoid unwanted reflection. This also allows the circulation space required for instrument storage to be the same space for the instrumental room circulation.

Display: Minimal, small tack/notice board is useful.

Storage: Prefabricated, built-in, or moveable locker cabinets may be used. School to provide list of instruments.

Finishes: Hard surface flooring, painted walls.

Equipment: Floor racks for large instruments such as cellos and basses.

Furnishings: N/A

Mechanical/Plumbing: Sufficient ventilation, temperature, and humidity controls to protect valuable instruments. Provide year-round air conditioning or use dehumidifier during summer months.

Electrical/Lighting: Sufficient lighting for student access.

Uniform Storage — J. H. Blake High, Montgomery County

Room: Uniform/Robe/Costume Storage Rooms

Activities: Band and chorus clothing storage, sorting, occasional dressing.

Users: Group members, teachers, assistants.

Area, Height, Configuration: Approximately 150-400 s.f., 2.5 s.f. per robe (2-4 inches per hanging robe) and 3 s.f. per uniform (4-5 inches per hanging uniform). Provide 3 ft. minimum aisle between clothing with minimum 5 ft. diameter turn around space. Maximize walls with rods and shelving. Two doors highly recommended for in-out traffic.

Relationships: Adjacent to Instrumental/Choral Music Rooms. Use to buffer sound between performance areas.

Display: Minimal, a small tack/notice board may be useful. Full length mirror for dressing.

Storage: Adjustable rods, shelves, hooks as required for hats, shoes/boots, jackets, pants, robes, dresses, shirts/blouses, skirts, sashes, ties, bows, and other accessories. Storage for flags and props.

Finishes: Hard surface flooring. Sealed and painted walls, clean ceiling or provide garment bags/ covers for clothing.

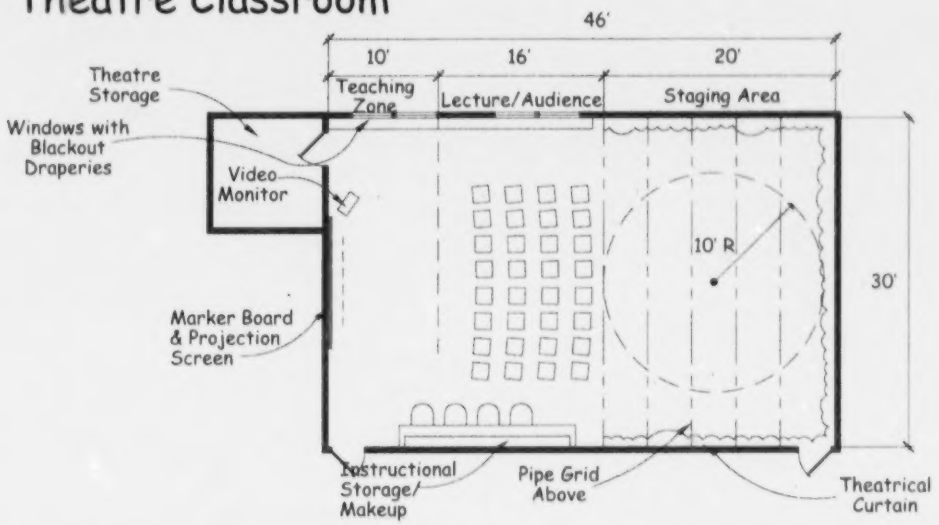
Equipment: If portable folding racks are used to move clothing from storage to dressing areas, provide floor space for racks. If large boxes are used for storage of bulky items, provide floor or shelf space.

Furnishings: N/A

Mechanical/Plumbing: Ventilation and dehumidification to avoid mildew.

Electrical/Lighting: Sufficient lighting for sorting.

Room: Theatre Classroom



Activities: High school theatre arts instruction, experimentation, rehearsal, performance, videotaping, filming

Users: Classes of 20-30, one teacher, casts of various sizes. Student audiences of 25-50.

Area, Height, Configuration: 1,400 s.f. minimum, 1,800 s.f. recommended, 10-foot height minimum, 16-20 feet preferred to accommodate pipe grid and simple stage lighting. Shape 3:2 for typical drama classes, performance area at one end, lecture at the other. Where theatre stage is heavily used, entire room may be used for production rehearsal. Such use requires acting area same size and shape as stage, narrow offstage strip for actors, and generous space for director and stage manager on long side.

Relationships: Usually near stage, dressing rooms, music, and other performance areas, set construction shop, storage areas. Buffer with non-active spaces to isolate sound.

Display: Chalk/dry erase marker/tack boards, retractable projection screen, television, VCR.

Storage: Near entrance for student book bags. Lockable cabinets for tapes, CDs, players, and other instructional materials. Cabinets, shelves, hooks, or racks for limited costume and prop storage.

Finishes: Vinyl flooring or wood floor painted black at performance end. Neutral wall color. Some sound absorption desirable.

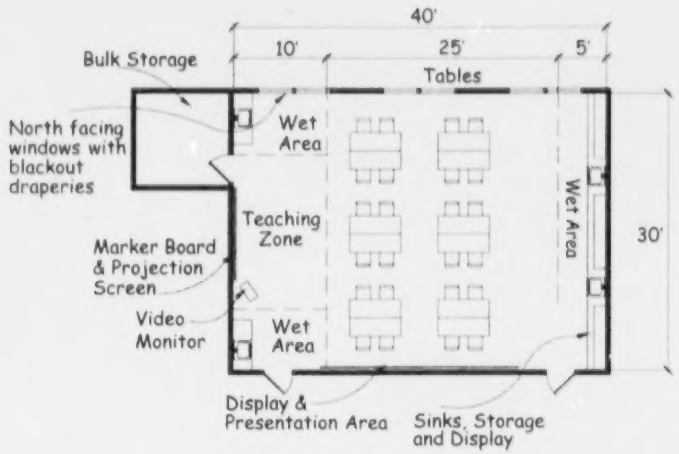
Equipment: Simple stage lighting, dimmers, lighting control panel and backdrop curtain at performance end. Audiotape, CD, video players, computers, printer, television, overhead projector. Pipe grid above performance area for theatrical lighting.

Furnishings: Moveable seating/stacking chairs, folding tablet armchairs possible. Small make-up counter with mirrors and sink in classroom is desirable. Nearby restrooms with long vanity counters may be used as alternative.

Mechanical/Plumbing: Well ventilated, air conditioned, HVAC designed for quiet operation. Sink desirable.

Electrical/Lighting: Variable lighting levels for audiovisual presentations and performances. Natural light desirable, but minimize windows to avoid glare, high contrast, distractions, and sound leakage. Wiring and outlets for microphones, recorders, and speakers. Typical voice, video, data connections.

Room: General Art Studio



Activities: Elementary, middle, and high school hands-on art instruction, production, and experimentation in drawing, painting, sculpture, ceramics, crafts, photography. Related art studies - history, theory, architecture, and design.

Users: Classes of 20-25 students desirable, may be as many as 32 students, frequently working independently, one teacher.

Area, Height, Configuration: 50-60 s.f./ student, Elementary/Middle 1,000 s.f. minimum, 1,400 s.f. recommended, High 1,200 s.f. minimum, 1,400 s.f. recommended. Ceiling not less than 10 feet. Dramatic spaces acceptable if acoustics can be managed to allow teacher to be heard. Provide one area with large tack wall and space for class to gather for presentations, juries, and critiques. Provide series of work centers for activities with different materials. Skylights acceptable if separate area can be fully darkened for showing slides and computer projections. Additional specialized studios for sculpture, ceramics, photography, computer, drawing, painting, and mixed media studios may be required.

Relationships: Adjacent to storage room for bulk art supplies. Locate high school studios convenient to school gallery, teacher planning, and related programs such as Family and Consumer Science, Technology Education, Journalism/Photography/ Video, Theatre, Vocational programs such as welding and metalwork. Locate elementary and middle school studios near fine arts team. Direct access outdoors is desirable.

Display: Walls suitable for tacking, nailing, hanging, mounting art work. Hooks in ceiling for hangings. Stands and shelves for sculpture. Chalk/ marker/tack boards, retractable projection screen(s), television. Provide one large projection screen for showing comparative art.

Storage: Cabinets, drawers, shelves, vertical slots and hooks for student book bags, works in progress, art materials, tools, paper, still life props, smocks, aprons, oversized art books, rolled posters, other instructional materials.

Finishes: Hard surface flooring such as vinyl tile or sealed concrete able to withstand ink, paint, clay, plaster, and chemical spills. Light colors, neutral shades, preferred.

Equipment: Multimedia projector, slide projector(s), audio/CD/video players, computers, printer, scanner, television, and overhead projector. Dependant on program offerings - potters wheel, kiln, darkroom equipment, and platform(s) for figure drawing model and still life.

Furnishings: Student work tables, room darkening draperies/shades for slide presentations, table top or floor easels, cutting board, light table, large paper cutter, stools, chairs, moveable carts and cabinets for materials, supplies, and tools, shelving, Fixed work tables not desirable.

Mechanical/Plumbing: Provide at least four large work sinks with plaster and clay traps, hot and cold water, drainboards and adjacent counter space, floor drains desirable, well ventilated, air conditioned, and special ventilation system for kiln, if included.

Electrical/Lighting: Natural light required, North light desirable, variable lighting - levels, color (incandescent and fluorescent), and type (overall, task, spot). Ample power outlets. Typical voice, video, data connections. Power and data outlets in floor at likely location for mobile AV/computer cart to avoid extension cord hazards. Track lighting to highlight projects on display.

General Art Studio
J. H. Blake High
Montgomery County

Room: Drawing, Painting, Printmaking Studio

Activities: High school hands-on art instruction, production, and experimentation in drawing, painting, crafts, photography, and printmaking. Related art studies - history, theory, architecture, and design.

Users: Classes of 20-25 students desirable, may be as many as 32 students, frequently working independently, one teacher.

Area, Height, Configuration: 50-60 s.f./ student, 1,200 s.f. minimum, 1,400 s.f. recommended. Ceiling not less than 10 feet. Dramatic spaces acceptable if acoustics can be managed to allow teacher to be heard. Provide one area with large tack wall and space for class to gather for presentations, juries, and critiques. Skylights acceptable if separate area can be fully darkened for showing slides and computer projections. Provide platforms for still life and live models with space for student easels and chairs/stools.

Relationships: Adjacent to storage room for bulk art supplies. Locate high school studios convenient to school gallery, teacher planning, and related programs such as Family and Consumer Science, Technology Education, and Journalism/Photography. Direct access outdoors is desirable.

Display: Walls suitable for tacking, nailing, hanging, mounting art work. Hooks in ceiling for hangings. Chalk/marker/tack boards, retractable projection screen(s), television. Provide one large projection screen for showing comparative art.

Storage: Cabinets, drawers, shelves, vertical slots and hooks for student book bags, works in progress, art materials, tools, paper, still life props, smocks, aprons, oversized art books, rolled posters, other instructional materials. Separate storage cabinets for chemical and solvents used in printmaking.

Finishes: Hard surface flooring such as vinyl tile or sealed concrete able to withstand ink, paint, clay, plaster, and chemical spills. Light colors, neutral shades.

Equipment: Multimedia projector, slide projector(s), audio/CD/video players, computers, printer, scanner, television, and overhead projector.

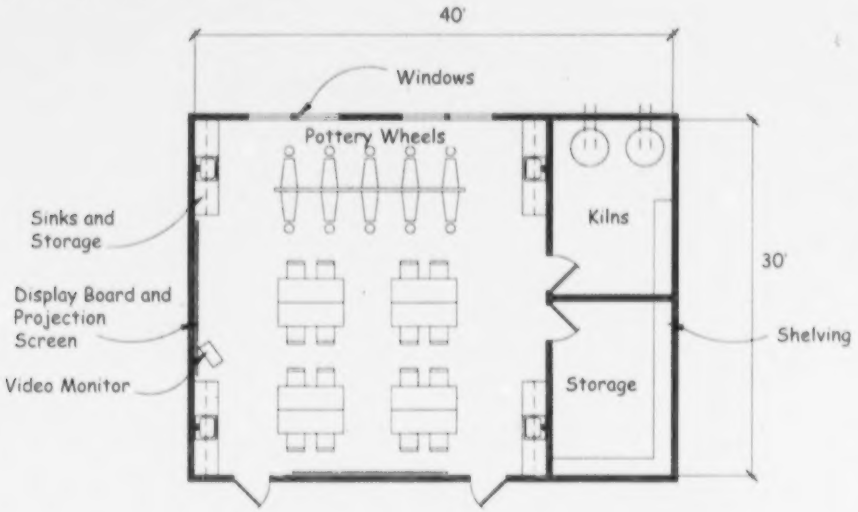
Furnishings: Student work tables, room darkening draperies/shades for slide presentations, table top or floor easels, cutting board, light table, stools, chairs, moveable carts and cabinets for materials, supplies, and tools, shelving. Provide cover for any door glazing for use during figure drawing sessions. Fixed work tables not desirable.

Mechanical/Plumbing: Provide at least four large work sinks with plaster and clay traps, hot and cold water, drainboards and adjacent counter space, floor drains desirable, well ventilated, air conditioned, special ventilation system for printmaking is required.

Electrical/Lighting: Natural light required, North light desirable, variable lighting - levels, color (incandescent and fluorescent), and type (overall, task, spot). Ample power outlets. Typical voice, video, data connections. Power and data outlets in floor at likely location for mobile AV/computer cart to avoid extension cord hazards.

Painting Studio School for the Arts
Baltimore City

Room: Ceramics Studio



Activities: High school instruction, production, and experimentation in ceramics and sculpture.

Users: Classes of 15-20 students desirable, may be as many as 32 students, frequently working independently, one teacher.

Area, Height, Configuration: 50-60 s.f. per student, 1,000 s.f. minimum. Ceiling not less than 10 feet. Ceramics is a messy, wet activity. Provide work centers for preparing clay with pug mills and slab rollers, using wheels or hand building, glazing, firing, and clean up. Locate sinks against walls to maximize floor space. Use moveable storage units in center of room. Separate glazing area from raw clay areas. Teacher demonstration work station with a mirror above is desirable. Provide separate kiln room of approximately 100 s.f. minimum in addition to space above. Kilns require clearance from adjacent walls of approximately 12 to 18 inches. The amount of clearance is determined by the manufacturer and varies depending on the features of the kiln. Provide space in kiln room for shelving. Provide materials storage room of approximately 100 s.f. in addition to spaces shown above.

Relationships: Same as General Art Studio

Display: Same as General Art Studio with additional shelving for samples and student work.

Storage: Provide 100 s.f. storage room. Provide storage drawers and shelves for bottles of glazes, brushes, molding tools, sponges, wire mesh for forms, etc. Provide ample shelf storage for unfired and fired ware near the kiln. Clay must be fully dry before firing and takes several days to dry. Ventilated drying cabinets and enclosed damp cabinets with gasketed doors are available. Also provide storage for boxing and packing materials. Some cabinets should be lockable. Provide small cubbies for students to store aprons and tools.

Finishes: Provide vinyl flooring for damp mop clean up.

Equipment: Provide 100 s.f. kiln room. Kilns are available in square or round and top or front loading models. Standard switches and automatic digital controls are available. Kilns can weigh several hundred pounds. Potter's wheels are operated with foot or hand levers. Typically the potter sits behind the wheel on a stool. Accessible models are available. Splash pans and side tables are attached to the wheel. Slab rollers are used to produce smooth, flat slabs of clay for hand building. They are available in table or floor models. A pug mill is a tabletop unit that blends and extrudes pieces of scrap clay into solid cylinders of clay for future use. Banding wheels are tabletop turntables used to rotate work while decorating, sculpting, carving, and hand building. Also provide standard instructional equipment as listed in General Art Studio.

Furnishings: Provide smooth topped tables such as plastic laminates with storage shelves underneath for working with clay. Ware carts are used to store ware in process, drying or cooling after firing, and moving wares from place to place. Portable clay carts with removable plastic liners or large plastic garbage cans on rollers with tight lids may be used to store clay. Provide stools.

Mechanical/Plumbing: Mechanical ventilation is critical. Long term exposure to silica contained naturally in clay may be a respiratory hazard, but clay is safe in moist form. Procedures that generate clay dust such as dry mixing and sanding are avoided in schools. Premixed slip is generally used. Shaping and trimming is done on moist work with tools and sponges. Kilns require mechanical ventilation and exhaust systems. Successful firing requires fresh air to be circulated within the kiln. Venting removes potentially harmful fumes from the work area. Kiln vents are available in floor mounted, kiln mounted, suspended, and kiln stand versions. Provide sink strainers and clay interceptor trap.

Electrical/Lighting: Kilns have specific electrical voltage and phase requirements. An electrical engineer or electrician must be involved in any kiln installation. Provide task lighting for decorating ware. Typical voice, video, and data connections.

Kiln Room

J. H. Blake High
Montgomery County

Room: Communications Arts Laboratory

Activities: High school instruction in computer graphic design, digital photography, web design, and animation. May be shared among Visual Arts, Technology Education, Library Media, Career Technology, Marketing, Digital Media Communications, and other programs.

Users: Classes of 15-20 students, frequently working independently. One teacher.

Area, Height, Configuration: Approximately 800 s.f. minimum, similar to typical general purpose classrooms. View panels to art studios desirable for supervision. At least 5% of stations accessible to persons with disabilities.

Relationships: Adjacent to art studios or primary program.

Display: Spaces to display digital and two dimensional student work. Tackboards, markerboards, projection screen, monitors.

Storage: Secure cabinets and open shelving for discs, paper, software, and manuals.

Finishes: Same as General Art Studio.

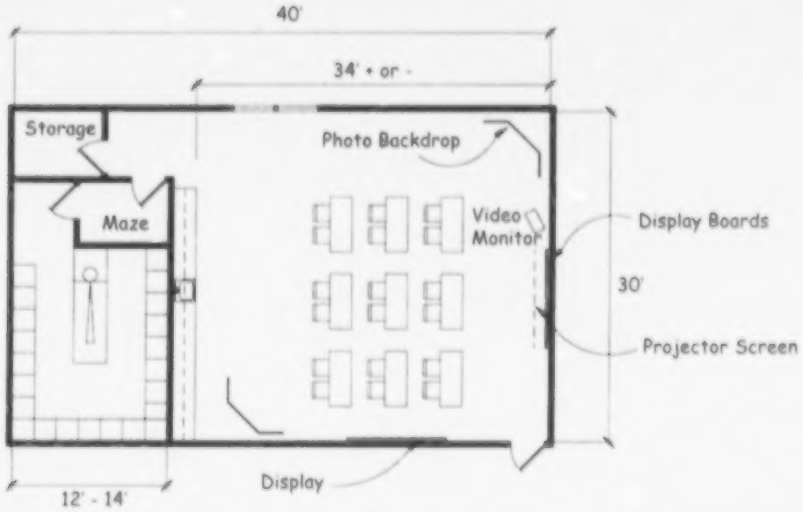
Equipment: Same as General Art Studio.

Furnishings: Computer stations with additional desk space for writing and drafting boards/tables for art work. Teacher station with projection device, counters or tables for peripherals. Ergonomically designed moveable chairs desirable.

Mechanical/Plumbing: HVAC designed for high computer heat load.

Electrical/Lighting: Ample power for computers, server, several printers, scanner. Telecommunications outlets for voice, video, and data. Variable lighting adjustable for computer projection. Glare reducing lenses on light fixtures.

Room: Photography Studio With Darkroom



Activities: High school instruction in black and white and/or color photography and production. Developing negatives, printing, drying, and mounting photographs. May be shared among Visual Art, Technology Education, Library Media, Journalism, or other programs.

Users: Classes of 15-20 students desirable, may be as many as 32 students, frequently working independently, one teacher.

Area, Height, Configuration: Studio, 800 s.f. minimum, 1,000 s.f. preferred. Darkroom, 250 s.f. minimum. 10 ft ceiling in Studio. Entrance to darkroom and all equipment must be accessible to persons with disabilities. Maze type entrances with blackout draperies or full round doors are suitable. Teacher chemical preparation work area needed. Provide clear floor space for backdrops and light standards in addition to typical art classroom set up.

Relationships: Same as General Art Studio.

Display: Same as General Art Studio.

Storage: Same as General Art Studio with lockable cabinets for valuable equipment and photography papers.

Finishes: Same as General Art Studio. Lockable chemical storage cabinet required.

Equipment: Same as General Art Studio with printers, enlargers, dryers, print washing sink, and film development cabinet.

Furnishings: Same as General Art Studio.

Mechanical/Plumbing: Temperature controls and custom exhaust design required for darkroom. Sinks with temperature controlled water required in darkroom and chemical preparation area. Access to darkroom sink from both sides to accommodate more students is desirable.

Electrical/Lighting: Same as General Art Studio. Special darkroom lighting.

Room: Sculpture Studio

Activities: High school hands-on art instruction, production, and experimentation in sculpture, crafts, three dimensional and multimedia work. Related art studies - history, theory, architecture, and design.

Users: Classes of 20-25 students desirable, may be as many as 32 students, frequently working independently, one teacher.

Area, Height, Configuration: High 1,200 s.f. minimum, 1,400 s.f. recommended. Ceiling not less than 10 feet. Dramatic spaces acceptable if acoustics can be managed to allow teacher to be heard. Provide one area with large tack wall and space for class to gather for presentations, juries, and critiques. Provide series of individual student work areas for long-term projects for activities with different materials. Skylights acceptable if separate area can be fully darkened for showing slides and computer projections.

Relationships: Adjacent to storage room for bulk art supplies. Convenient to school gallery, teacher planning, and related programs such as Family and Consumer Science, Technology Education, Journalism/Photography/Video, Theatre, and to Vocational programs such as welding, metalwork, and carpentry. Direct access outdoors is desirable.

Display: Walls suitable for tacking, nailing, hanging, mounting art work. Hooks in ceiling for hangings. Stands and shelves for sculpture. Chalk/marker/tack boards, retractable projection screen(s), television. Provide one large projection screen for showing comparative art.

Storage: Cabinets, drawers, shelves, vertical slots and hooks for student book bags, works in progress, art materials, tools, paper, still life props, smocks, aprons, oversized art books, rolled posters, other instructional materials.

Finishes: Hard surface flooring such as vinyl tile or sealed concrete able to withstand ink, paint, clay, plaster, and chemical spills. Light colors, neutral shades.

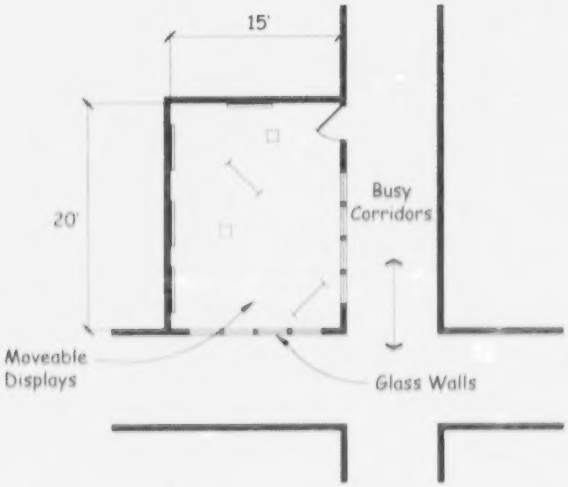
Equipment: Multimedia projector, slide projector(s), audio/CD/video players, computers, printer, scanner, television, and overhead projector. Dependant on program offerings may require tools for wood and metal work.

Furnishings: Student work tables, room darkening draperies/shades for slide presentations, easels, cutting board, light table, stools, chairs, moveable carts and cabinets for materials, supplies, and tools, shelving. Fixed work tables not desirable.

Mechanical/Plumbing: Provide at least four large work sinks with plaster and clay traps, hot and cold water, drainboards and adjacent counter space, floor drains desirable, well ventilated, air conditioned, special ventilation system for wood, stone, dust, and metal collection required.

Electrical/Lighting: Natural light required, North light desirable, variable lighting - levels, color (incandescent and fluorescent), and type (overall, task, spot). Ample power outlets. Typical voice, video, data connections. Power and data outlets in floor at likely location for mobile AV/computer cart to avoid extension cord hazards.

Room: Gallery



Activities: Display of student art work, science projects, technology projects. Display of work by faculty or outside artists. Instruction in merchandizing, design, and other career technology programs such as exhibition design.

Users: Students, staff, visitors

Area, Height, Configuration, Relationships: At minimum in each school, provide large tackboard and art display case near theatre, gym, public entrance, or lobby. In elementary schools designate gallery space in corridor including clear floor space for three dimensional items. In secondary schools, provide an expanded corridor, lobby, or enclosed room (200-400 s.f. minimum, 10 ft. ceiling minimum). Enclosed room recommended for fine arts magnet schools. Provide clear floor space, adjustable lighting, ample height, regular shape, glass walls and doors to see in even when closed.

Display: Provide flexible, moveable dividers, stands, hangers, etc.

Storage: Convenient storage for extra dividers, stands, hangers, benches, tables, etc.

Finishes: Provide light colors, easily changable for individual exhibits.

Equipment: Moveable dividers to hang two dimensional work. Various stands for three dimensional work.

Furnishings: Provide wall mounted picture molding, benches for visitors, and table or podium for sign-in book and artist fliers.

Mechanical/Plumbing: No special needs.

Electrical/Lighting: Variable display lighting critical, ample power and data connections for digital art projects.

Gallery — J. H. Blake High, Montgomery County

Room: General Purpose Classroom

Activities: Elementary, middle, high school instruction.

Users: 25-30 students, one teacher.

Area, Height, Configuration: 35 s.f. per student. 9 ft. 6 inch ceiling, minimum. Generally square shape.

Relationship: May be located alone or clustered by discipline, house, team, or other organizing principle.

Display: Large tack and marker boards, television monitor, pull down projection screen.

Storage: Cabinets and shelves for textbooks and other instructional materials. Lockable teachers wardrobe cabinet. Elementary rooms will include student cubbies.

Finishes: Acoustic tile ceiling, painted walls, vinyl flooring acceptable.

Equipment: Overhead projector, television monitor, VCR, student and teacher computers, printer.

Furnishings: Student desks or tables, computer tables, chairs, teacher desk, projector carts, bookcases, storage cabinets.

Mechanical/Plumbing: HVAC for year-round comfort.

Electrical/Lighting: General and task lighting. Voice, video, and data connections required. Electrical convenience outlets available.

Room: Teacher Planning Areas

Activities: Professional office-type activities.

Users: Teachers working alone or in small groups.

Area, Height, Configuration: 80 s.f. minimum per teacher. Provide individual desk and computer work space. Music teachers may require MIDI set up. Space for personnel reference books and files and area for consultation with peers, parents, and students.

Relationship: May be located in classrooms or clustered in planning areas by discipline, house, team, or other organizing principle. Where possible, provide visual supervision of classrooms and cooridors. Convenient to restrooms.

Display: Small tack/marker board for personal use.

Storage: Lockable storage for personal belongings and professional references including over-sized books, slides, tapes, and CDs, posters, props, and costumes.

Finishes: Same as General Purpose Classroom.

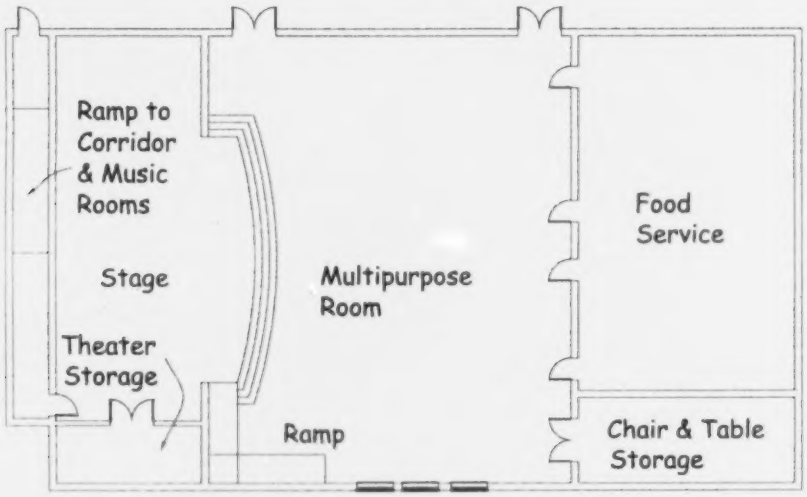
Equipment: Computer, MIDI set up for music teachers, telephones.

Furnishings: Wardrobe units, bookcases, file cabinets, desks, computer stations.

Mechanical/Plumbing: Same as General Purpose Classroom.

Electrical/Lighting: Same as General Purpose Classroom.

Room: Multipurpose Room



Activities: Elementary and middle school instruction in theatre and performance on stage in theatre, music and dance. Also used for dining and large group assemblies.

Users: Students and teachers, often in groups of several classes (i.e., three (3) fifth grade classes) for instruction and assemblies. Audience seating for 300.

Area, Height, Configuration: Dedicated space for theatre rarely provided in elementary and middle schools. Typically general purpose classroom, activity room, stage, and/or music room used for instruction. Audience space shared with food services and community activities. Natural light desirable for dining rooms with ability to darken room for performances.

Provide open stage in high ceiling-ed room. Provide 800 s.f. platform stage 20-24 inches above floor and with reflective surfaces behind and above platform to project sound for hearing children on stage. In addition, provide wing space equal to size of stage (800 s.f.) evenly split on both sides of stage. A typical dining room of 2,400-2,800 s.f. for 200 children at tables will seat 300 in lecture style rows. Ceiling height minimum 14-16 ft., 18-20 ft. preferred, similar to instrumental music requirements.

Relationships: Adjacent to kitchen. Convenient to main school entrance, lobby and parking. Provide direct access to table store rooms. Locate stage near music or other classrooms for use by performers prior to going on stage. Provide access to wings without going into main house. Provide convenient access to restrooms backstage for performers and separate restrooms for the public. Provide direct access to stage from house including access for persons with disabilities. Provide ability to close off kitchen with no light leaks. Food service equipment (such as ice cream coolers with noisy compressors) must not be permanently located in seating area.

Display: Provide tack boards, televisions, VCRs, and projection screens. Provide portable marker boards, newsprint easels, projector carts, and other presentation equipment, as needed. Several television monitors (three or four on each side) may be required in seating area for all audience members to see the screen clearly.

Storage: Provide 100 s.f. dedicated storage room for theatre arts program with adjustable shelving. Provide additional storage rooms for tables and extra chairs (100 - 400 s.f.). Provide storage space for ladders or personnel lifts necessary to maintain ceiling, lighting, and stage equipment.

Finishes: Acoustical absorbing ceiling and rear walls in house. Sound reflecting ceiling above stage. Absorptive wall behind audience important. Design by acoustical engineer highly recommended. Cant side walls if possible to avoid echoing. Vinyl flooring in dining/audience area. Sprungwood floor at stage for dance concerts.

Equipment: Professionally designed sound and stage lighting system.

Furnishings: Room darkening draperies in dining area for performances. On stage, provide simple backdrop, wing, border, and teaser curtains with a minimum 3 ft. passage behind curtain for movement from one side of stage to other. Provide adult sized moveable chairs with storage carts.

Mechanical/Plumbing: Provide quiet HVAC.

Electrical/Lighting: Simple stage lighting. Dimmable house lighting to fully dark for AV presentations. Colored border lights at front end of stage. Microphone outlets (multiple locations) at platform. Theatrical spotlight pipe location (one) 15 - 25 ft. from platform. Electrically operated projection screen at front of stage. Typical voice, video, data connections on stage and in house.

Multipurpose Room

Oklahoma Road Middle
Carroll County

Room: Performance Hall

Activities: Live dance, music, and theatre performances by high school students. Other school functions such as assemblies, and lectures. Community use by amateur/professional groups.

Users: Students, teachers, community groups. Seat one grade level or less, no more than 350.

Premises for Design: As determined by needs assessment, provide intimate environment with excellent acoustics for music and speech without added shells/canopies or electronic amplification. Provide full complement of back stage support spaces large enough for class instruction and group work projects. Provide full complement of audience amenities for comfort and public support. All areas including workspaces are accessible to persons with disabilities.

Area, Height, Configuration: Provide a recital hall space with an open stage in single high, rectangular room approximately 38 ft. high. The following activity areas must be accommodated. Sizes reflect realistic needs. Alternate locations and shared areas are possible. Facility planners must be able to account for each of the functions listed below:

Stage: 1,800 - 2,000 s.f. minimum, based on maximum performance area for orchestra/band at 18-20 s.f. per instrumentalist, 50 feet wide, 36-40 feet deep, 42 inches above lowest level of seating recommended. In addition, stage proportions are important for dance and orchestra/band performances. Dance requires greater width and depth, a depth of 40 feet is not unusual. Instrumental performances require greater width. A typical high school orchestra or band may easily exceed 100 members; a stage width of 50 to 80 feet is required. Drama utilizes less width but greater wing space and space behind the set. Provide a "cross-over" at the back of the stage. Flooring needs to be suitable for drama (nailing) and dance (resilient) such as a floating floor of tempered hardboard on 2 layers of 3/4" plywood and rubber pads, painted flat black. Hardwood strip flooring is not suitable. Provide stage curtains including backdrops, wing, border, and teaser curtains, for use in various staging configurations.

Wings (including stage manager's station): 1,800 s.f., same total s.f. as stage, same depth, split evenly on both sides, 900 s.f. right, 900 s.f. left. Sets and backgrounds are transported from side wings.

Off-stage storage: 250 s.f. minimum, for grand piano, choral and instrumental concert risers, Orchestra shells, vinyl dance flooring, music stands, chairs, etc., in addition to Wings.

Orchestra area: When needed to support dance or musicals, the small "pit orchestra" will be seated on the floor or on the stage or wings visually shielded by curtains or sets.

Stage Lighting: Provide access for technical staff to catwalk or tension grid where fixtures are to be attached overstage and above seats. Recommend this level be approximately 24 ft. above stage. Must have two means of egress. Also, provide access to torme lighting positions at sides of stage approximately 7 ft. above finished floor. Provide cooling for electrical dimming equipment usually located at technical floor level.

Projection/Sound/Lighting Booth(s): 150 s.f. minimum each. Locate in center of house, with operable, sound proof window required for conversation from booth to house. Provide accessible route to booth and 5 ft. minimum behind control counter for accessibility by students and staff with disabilities.

Set Design area: Use space in set construction shop or art/technology education or theatre classroom program spaces.

Set Construction shop: 1,200 s.f. or in comprehensive high schools use carpentry/building construction laboratories. Include areas for materials, fabrication, painting, trial set up, and easy moving on to stage. Provide water for adding to scenic paint and sinks. Provide a spray booth. Provide storage for rolls of muslin for flats.

Set Storage: 600 s.f., for rolled and flat scenery and three-dimensional pieces most likely to be reused from year to year. If community groups are expected to be frequent users, separation of school and community storage is a necessity.

Loading/Receiving: 200 s.f. with short, clear, wide, and straight paths to stage, shop, storage. Connect to stage via 14 ft. high clear door openings. Provide 14 ft. ceiling height.

Costume Design and Construction shop: 650-700 s.f., in comprehensive high school use family and consumer sciences/fashion design/marketing program areas. Include areas for materials; cutting, sewing, dying, and painting fabric; fabricating and storing accessories; and fitting costumes.

Costume Storage: 80 s.f., for items most likely to be reused from year to year.

Dressing/toilet room: 2 @ 325 s.f. each for 10 persons including two toilet stalls. Provide 16 s.f. per person with 2 linear foot rod, hat shelf, and shoe shelf and 15 inch deep by 30-inch wide makeup counter per person. For larger casts, provide one toilet stall for every four to five persons. Provide lockable storage for personal belongings of cast. Provide speaker for sound from stage.

Makeup Room: 100 s.f. optional, useful if students do not do their own makeup, in comprehensive high school use cosmetology program areas. Provide mirrors, lights, seating, and counter.

Stage Anteroom: 150 s.f. for cast assembly before entrance on stage. Some benches or chairs. Traditional "green room" with lounge furniture not required in high school.

Audience Seating (House): 3,500 - 4,200 s.f., 10-12 s.f. per seat, back row 50 feet from stage preferred, 65-75 feet maximum, to see actor's face. Steep rise and view down on stage preferred for Dance. ADAAG for wheelchair and companion seating apply. Consider maintaining stage, side aisles, and concourse at same floor level to provide an accessible route from house to stage.

Foyer/Lobby/Lounge: 2,100 s.f., 6 s.f./seat. Spaces are typically combined in high schools and are used by students during school day as lobby, corridors, etc. Preferably separate from gymnasium lobby to avoid scheduling conflicts and confusion. Admission control point for ticket taking is at entrance to house. Provide clear separation between performers and audience's realms. Design for smooth exiting of entire audience at once.

Foyer: 350 s.f., 1.0 s.f. per seat, gathering area between street/parking lots and ticket booths.

Lobby: 420 s.f., 1.2 s.f. per seat, access to toilets, coat checkroom, and concessions. Can double as art gallery. Provide direct controlled access from lobby to backstage for production manager.

Lounge: 1,330 s.f., 3.8 s.f. per seat, provide benches and seating for audience use before shows and during intermissions.

Ticket booth: 50 s.f., ADAAG apply to ticket window access and workers.

Concession booth: 80-150 s.f., ADAAG apply to serving counter and work space.

Coat Checkroom: 190 s.f. optional, 0.55 s.f. per seat, 5 attendants per 1,000 seats, highly desirable in cold climates where public performances are numerous.

Toilet Rooms: Sized per code requirements. Design for peak use at intermissions; apply "potty parity" rules for larger women's room.

Relationships: Near audience parking, service delivery areas, career technology education program areas, and fine arts program areas.

Display: Use foyer/lobby/lounge area and school gallery for display of student artwork. Provide large electrically operated projection screen in House.

Storage: See above.

Finishes: Acoustical qualities critical in House and on Stage. Carpeted aisles preferred. Flooring under seats may be vinyl composition tile, or concrete. Durability and maintenance requirements important throughout. Aesthetic appearance important in foyer/lobby/lounge/house/public toilet rooms. Solid rear stage wall made of wood, troweled block, brick, or concrete block, not painted white or near white required for music sound projection. See specific area descriptions also. Review by acoustic engineer/theatre design consultant strongly recommended.

Equipment: Provide sound system to reinforce sound, monitor programs, fold-back sound to onstage performers, recording, sound effects, playback into audience, paging. Provide portable dance floors. Provide risers and sound shells for music. Provide stage curtain system suitable for various staging. Also coordinate with video specialists for taping and broadcast requirements. Use of acoustic engineer/ theatre design consultant recommended.

Furnishings: Adequate seat width and row spacing critical. Aisles on both sides of all seat rows desirable. Seats should be upholstered for best acoustics and comfort.

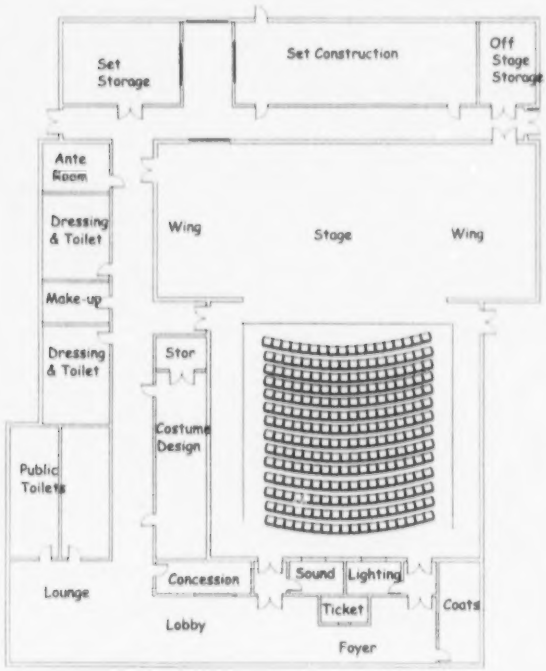
Mechanical/Plumbing: HVAC comfort and noise/vibration levels critical. Isolate stage and house from all exterior noise (walls and roof). In general, air supply should be low, below seat level, and exhaust high. The air velocity in cubic feet per minute can be very low since it enters the space close to the audience instead of being forced down from above. Cooling is the most important mode because of the heat generated by the audience. Any noise generating equipment should be remote from the audience. Special ventilation systems in shop areas required.

In addition to toilets in dressing rooms, provide access backstage to gang toilets for performers from large groups. Design for peak use at intermissions. Provide drinking fountains for performers and audience. Stage HVAC noise criterion level not to exceed NC 20. Review by acoustic engineer/theatre design consultant strongly recommended.

Electrical/Lighting: General stage lighting at least 70 foot-candles. Controls simple enough for amateurs to operate. Provide sound/lighting control position at mid-house level in addition to control booth. Connect stage to integrated video and audio recording network in school. Provide overall lighting in house for use during assemblies and large group meetings. Review by acoustic engineer/ theatre design consultant strongly recommended.

Set Design Area — School for the Arts Baltimore City

Room: Auditorium



Activities: Live dance, music, and theatre performances by high school students. Other school functions such as assemblies, and lectures. Community use by amateur/professional groups.

Users: Students, teachers, community groups. Seat half the school population, 750.

Premises for Design: As determined by needs assessment, provide traditional proscenium stage with additional music shells and amplification systems available and required for good sound. Provide large seating capacity to minimize number of performances. Provide full complement of back stage support spaces large enough for class instruction and group work projects. Provide full complement of audience amenities for comfort and public support. All areas including workspaces are accessible to persons with disabilities.

Area, Height, Configuration: Provide a traditional auditorium space with a proscenium stage. The following activity areas must be accommodated. Sizes reflect realistic needs. Alternate locations and shared areas are possible. Facility planners must be able to account for each of these functions:

Stage: Same as Performance Hall. There are specific ratios for the height and width of the proscenium opening. 35-45 foot width recommended, adjustable if possible. In addition, stage proportions are important for dance and orchestra/band performances. Height of fly space above stage to be evaluated in needs assessment. Full flies require stage rigging beyond the capability of many teachers and students for safe operation. Full flies also trigger additional fire safety and structural costs.

Wings (including stage manager's station): 1,800 s.f., same total s.f. as stage, same depth, split evenly on both sides, 900 s.f. right, 900 s.f. left. Sets and backgrounds are transported from side wings.

Orchestra "pit" area: 750 s.f., 15 feet minimum depth clear floor space in front of stage, full width of stage, first rows of seats removable to create orchestra area when needed.

A full orchestra pit recessed under the stage is an expensive, rarely used option in a high school auditorium. It would be warranted in a school that presents several musicals a year. A pit requires additional structural framing, a ramp, a lift or elevator for access by persons with disabilities and for pianos and also a custom designed cover to extend the stage for non-musical productions.

The "on the floor" option listed in this guide is viable for most schools. The disadvantages are reduction in seating capacity, possible obstructed views of the stage, and unbalanced sound, especially for those seated near the orchestra.

Partially lowered orchestra areas separated from the house by three to four foot high block partitions have been used in several Maryland schools recently. The advantage of this solution is that it improves views of the stage and lessens unbalanced sound. The disadvantage of this approach is the physical barrier, separation, and permanent distance it creates between the audience and the performers on stage especially during non-musical performances. Intimacy is lost.

Off-stage storage: Same as Performance Hall.

Stage Lighting: Same as Performance Hall.

Projection/Sound/Lighting Booth(s): Same as Performance Hall.

Set Design area: Same as Performance Hall.

Set Construction shop: Same as Performance Hall.

Set Storage: Same as Performance Hall.

Loading/Receiving: Same as Performance Hall.

Costume Design and Construction shop: Same as Performance Hall.

Costume Storage: Same as Performance Hall.

Dressing/toilet room: Same as Performance Hall.

Makeup Room: Same as Performance Hall.

Stage Anteroom: Same as Performance Hall.

Audience Seating: 7,500 - 9,000 s.f., 10-12 s.f. per seat. Steep slope and view down on stage preferred for Dance. ADAAG for wheelchair and companion seating apply.

Foyer/Lobby/Lounge: Same as Performance Hall.

Foyer: Same as Performance Hall.

Lobby: Same as Performance Hall.

Lounge: Same as Performance Hall.

Ticket booth: Same as Performance Hall.

Concession booth: Same as Performance Hall.

Coat Checkroom: Same as Performance Hall.

Toilet Rooms: Same as Performance Hall.

Relationships: Same as Performance Hall.

Display: Same as Performance Hall.

Storage: Same as Performance Hall.

Finishes: Same as Performance Hall.

Equipment: Same as Performance Hall with additional stage curtain and rigging requirements. Use of theatre design consultant highly recommended.

Furnishings: Same as Performance Hall.

Mechanical/Plumbing: Same as Performance Hall.

Electrical/Lighting: Same as Performance Hall.

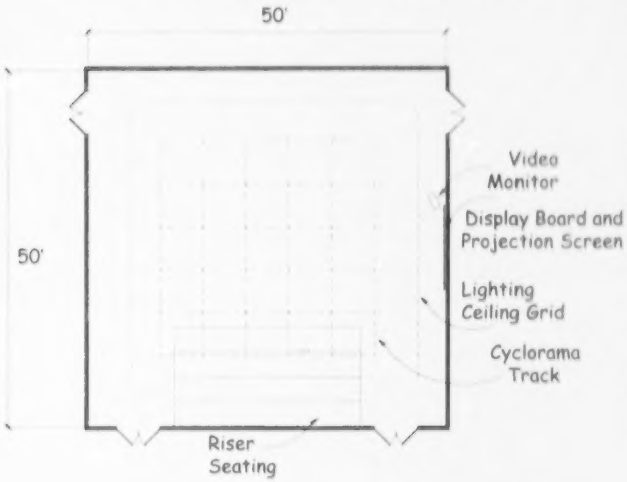
Jim Rouse Theatre — Wilde Lake High, Howard County

AREA SUMMARY

Performance Hall/Auditorium
Seating 350-750

Stage	1,800	s.f.
Wings	1,800	s.f.
Off Stage Storage	250	s.f. minimum
Orchestra Area	750	s.f.
Projection/Sound/Lighting Booth(s)	150	s.f. minimum, each
Set Design Area	----	Use other school facilities
Set Construction Shop	1,200	s.f. or other school facilities
Set Storage	600	s.f.
Loading/Receiving	200	s.f.
Costume Design/Construction	650-700	s.f. or other school facilities
Costume Storage	80	s.f. or other school facilities
Dressing/Toilet Rooms (2@325 each)	650	s.f or other school facilities
Make up Room	100	s.f. or other school facilities
Stage Anteroom	150	s.f. or other school facilities
Audience Seating (House) @10-12 s.f. seat	3,500-9,000	s.f
Foyer @1.0 s.f. per seat	350-750	s.f. or other school facilities
Lobby @1.2 s.f. per seat	420-900	s.f.
Lounge @3.8 s.f. per seat	1,330-2,850	s.f. or other school facilities
Ticket Booth	50	s.f.
Concession Booth	80-150	s.f.
Coat Checkroom @0.55 per seat	190-400	s.f., optional
Audience Toilet Rooms	----	To be determined by code requirements

Room: Black-Box Theatre



Activities: Same as theatre classroom but more suitable for performances, recitals, small assemblies, and technical instruction. Could also be used for Television Studio.

Users: Classes of 20-30, one teacher, casts of various sizes, audiences of 25-150.

Area, Height, Configuration: Similar area to Auditorium or Performance Hall stage for set mock-ups and rehearsal, but between 2,500 square feet and 3,000 square feet. This provides seating for up to 150 during a performance. Height should be 18-22 feet minimum to house tiered seating, lighting, and simplified rigging system. 24 foot height preferred. Configuration should be as nearly square as possible in order to provide maximum flexibility in performance area location and seating arrangement. There should be multiple entrances/exits, at least one opening onto the lobby and one onto other corridor for movement of performers. This may be an interior space without windows. A lighting and sound control booth (150 s.f.) should be located directly adjacent.

Relationships: Close to stage, storage, workshop, dressing rooms, music suite. Directly adjacent to lobby and control room.

Display: Tack boards.

Storage: Secure storage for microphones and sound equipment, portable lighting control system. Separate storage for chairs, risers. Separate storage for set materials and props.

Finishes: Matt black walls and ceiling. Floor to be similar to stage, resilient floating floor painted black such as tempered hardboard on 2 layers 3/4" plywood and rubber pads.

Equipment: Sophisticated lighting system with light control and sound control boards. Provide a pipe grid at 18+ feet above floor, with a series of draperies for various configurations.

Furnishings: Seating for up to 150 on risers, student tables and chairs, movable computer stations, all furnishings light weight and easily folded/moved. Retractable seating may be used.

Mechanical/Plumbing: Water not required if available close by. HVAC system with sound attenuation, large ducts and diffusers, air returns to minimize system noises and drafts.

Electrical/Lighting: Provide efficient fluorescent lighting for typical class functions and working on sets, dimmable lighting for performances, and complete theatre lighting. Provide catwalk with stair access for lighting or personnel lifts for use by technical staff.

Black Box Theatre — Carver Center, Baltimore County

Room: Mini-Theatre

Activities: Daily instruction. Same as theatre classroom but more suitable for performances, recitals, small assemblies, and technical instruction. Could also be used for Dance Studio. (This is not a black-box theatre).

Users: Classes of 20 -30, one teacher, casts of various sizes, audiences of 25-150.

Area, Height, Configuration: Similar area to Auditorium or Performance Hall Stage for set mock-ups and rehearsal, but between 2,500 square feet and 3,000 square feet. This provides seating for up to 150 during a performance. Height should be 18 - 22 feet minimum to house tiered seating, lighting, and simplified rigging system. 24 ft. height preferred. Provide catwalk at 12 feet to access lighting with stairs up to catwalk. Configuration should be as nearly square as possible in order to provide maximum flexibility in performance area location and seating arrangement. There should be multiple entrances/exits, at least one opening onto the Lobby, and one onto other corridors for movement of performers. Provide natural daylight with room darkening draperies. An office/control booth (150 s.f.) should be located directly adjacent.

Relationships: Close to stage, storage, workshop, dressing rooms, music suite. Directly adjacent to Lobby and Control room.

Display: Marker and tack boards, projection screen, monitor.

Storage: Secure storage for microphones and sound equipment, portable lighting control system. Separate storage for chairs, risers. Separate storage for set materials and props.

Finishes: Light color walls and ceiling similar to general classroom. Floor to be similar to stage, resilient floating floor painted black. Such as tempered hardboard on 2 layers 3/4" plywood and rubber pads. An acoustical ceiling is appropriate. Provide absorbent materials at rear of house.

Equipment: Sophisticated lighting system, but not as extensive as for the stage, with portable light control and sound control boards. Provide a pipe grid at 18+ ft above floor, with a series of drapes for various configurations. May include mirrors, dance barres, with cyclorama curtain to conceal mirrors.

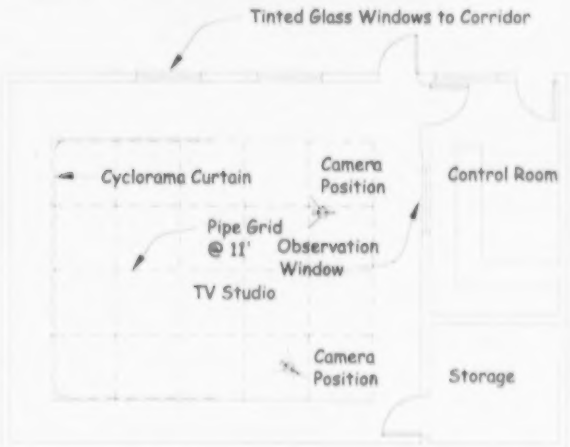
Furnishings: Seating for up to 150 on risers, student tables and chairs, movable computer stations, all furnishings light weight and easily folded/moved. Retractable seating may be used.

Mechanical/Plumbing: Water not required if available close by. HVAC system with sound attenuation, large ducts and diffusers, air returns to minimize system noises and drafts.

Electrical/Lighting: Provide efficient fluorescent lighting for typical class functions and working on sets, dimmable lighting for performances, and complete theatre lighting. Provide catwalk with stair access for lighting or personnel lifts for use by technical staff.

Mini-Theatre — Wilde Lake High, Howard County

Room: Television Studio



Activities: High school instruction in television production. Live cable broadcasts within school sometimes in front of small audience. May be used for video conferences, distance learning programs, and audio recording sessions. May be shared with library media and career technology programs.

Television studios in schools are typically used for videotaping presentations or performances, live cable broadcasts within the school such as daily news shows and announcements, and as a video conference or distance learning facility. Smaller, lighter cameras and recording equipment that work well in natural light now give students the option of taping anywhere. The school system administration needs to decide specifically on the level of production to be offered and provide facilities to meet that level, integrating all the potential video and audio sources and locations. Many high schools will include a formal TV studio. At elementary and middle schools, a formal TV studio is optional.

Users: 5-10 Students, 1 teacher, audiences of 10-40.

Area, Height, Configuration: Approximately 900 s.f. Room size generally depends on type of cameras and sets proposed. Allow 20 ft. from camera to actors and 6 ft. behind actors to nearest wall. Generally square shape, no exterior walls, 8ft. minimum to bottom of lights, 11ft. to bottom of pipe grid, 12 ft. to finished ceiling. Provide good sound isolation. Consider opportunities for tinted acoustical glass panels from adjacent corridors into production areas.

Relationships: Adjacent to TV control room, convenient to TV taping and editing room. Convenient to dressing rooms, costume storage, etc. Isolate room acoustically from surrounding spaces.

Display: Sets designed and constructed by students. Simple home base set for daily news and interviews likely to be in place for long-term use.

Storage: If room is used for classes or other regular activities, provide space for excess furniture to be stored "off stage".

Finishes: Painted walls and floors, ceilings may be unfinished, floors frequently repainted. Room does not need to be black.

Equipment: Provide minimum two cameras, maximum three. Theatre curtain back drops roller ball mounted, ceiling pipe grid for lights, microphones, and additional lights on stands, etc. Separate lighting grid from curtain tracks to prevent vibrations in lights. Moveable risers for audience seating.

Furnishings: All light weight and moveable, nothing fixed. Stackable/folding chairs with carts.

Mechanical/Plumbing: Quiet mechanical systems - low air volume, isolated equipment mountings. Humidity control to minimize static electricity.

Electrical/Lighting: Overall general lighting in addition to color balanced fluorescent lighting. Quartz theatre lighting is not recommended. Ample convenience outlets. Typical voice, video, data outlets. Provide power for lighting at ceiling.

Room: Television Taping, Editing, and Control Room

Activities: Taping and editing video from studio or remote locations. Small group instruction and coaching on use of equipment.

Users: 3-5 students and 1 teacher.

Area, Height, Configuration: 150 s.f. minimum. Enclosed room large enough for small group instruction, and accessible to persons with disabilities. Long and narrow shape. Extra counter space needed at each station for other students and a technician or teacher coaching. Space behind the counter at least five feet wide to permit a user to turn a wheelchair around. Allow 24 inches behind rack mounted equipment for access for maintenance. Although taping may be remote, recording and editing equipment must be permanently assembled and available in a central location. Where studio and control rooms are adjacent, equipment cabling may require pass through opening below counter at wall between studio and control room. Provide good sound isolation, ample work surfaces, lighting, ventilation, and power.

Relationship: Adjacent to TV studio preferred for instruction. Taping and editing equipment may be installed in its own separate room or in other instructional, production, or administrative areas. Avoid locations near high activity areas and noisy mechanical units.

Display: Vision panel above desk with clear view into studio desirable for student supervision. Actual control of taping occurs via monitors. Small tack/marker board useful.

Storage: Space for additional monitors and back up units, taping materials.

Finishes: May be carpeted to reduce noise.

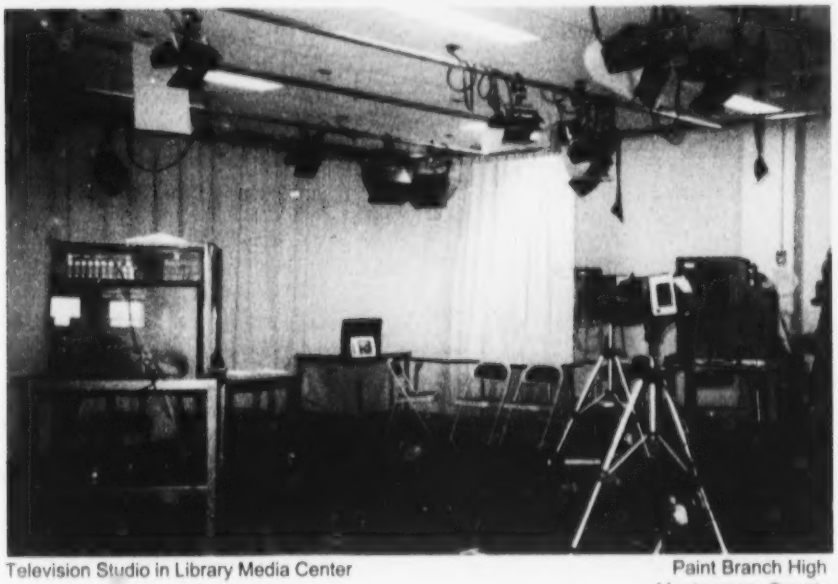
Equipment: Numerous monitors, video equipment on racks, etc.

Furnishings: 30 inch wide desk height tables or counters, stools or moveable chairs.

Mechanical/Plumbing: HVAC for electronic equipment load. Humidity control to minimize static electricity.

Electrical/Lighting: Professionally engineered wiring/sound systems in addition to standard power, lighting, telecommunications systems. Task lighting at control stations. Dimmable lighting. Network school to transport video signals from performance spaces, gymnasium, meeting rooms, and stadium/fieldhouse to control room.

Television Control Room — J. H. Blake High, Montgomery County



Television Studio in Library Media Center

Paint Branch High
Montgomery County

"I would teach children music, physics, and philosophy; but more important music, for in the patterns of music and all the arts are the keys to understanding."

Plato

Chapter 4
General Design Considerations

Accessibility for Persons with Disabilities

Public schools must provide access for students with disabilities to all educational programs in the least restrictive manner. They may not discriminate against individuals with disabilities in matters of employment and public services. Consequently school facilities must be fully accessible to students, teachers, and public users. Title II of the Americans with Disabilities Act (ADA) requires public schools, as local government buildings, to comply with either the Uniform Federal Accessibility Standard (UFAS) or the ADA Accessibility Guidelines for Buildings and Facilities (ADAAG.) In addition to the federal standard, the Maryland Accessibility Code (COMAR .05.02.02) also applies. These guidelines apply to new construction and to those elements of a facility changed in renovations.

As this is written in 2001, the federal government is in the process of revising and updating the accessibility guidelines with the intent of creating a single set of guidelines and doing away with UFAS. Architects and local code officials can determine which specific standards apply.

Accessibility guidelines were developed to meet adult needs and did not always serve small children well. The federal agency responsible for the guidelines, - the U. S. Architectural and Transportation Barriers Compliance Board, known as the Access Board, has incorporated provisions for children in the ADAAG. While not yet formally approved by the U. S. Department of Justice, these provisions may be used by school systems when they provide equal or better accessibility than the adult standards.

Federal accessibility guidelines for electronic and information technology devices and systems are also under development. The Access Board published standards in December 2000 that apply to all Federal agencies. Industry representatives are heavily involved in the process. New products will reflect these developments.

The basic design objectives within instructional program and performance areas is to provide circulation space wide enough for wheelchair users to enter and maneuver in all areas and to have materials and equipment within reach. The distance between fixed equipment must meet circulation and space requirements. Adjustable seat, table, and display surface heights are desirable.

School auditoriums are considered "assembly" areas. The design objectives are to allow persons with disabilities a choice of seat location, lines of sight comparable to members of the general public, an accessible route from seating to the performing areas, and an assistive listening system. The guidelines recommend providing spaces large enough for two wheelchairs users to sit together. The guidelines also suggest that persons who walk with difficulty may prefer continental seating patterns with a greater number of seats per row and an increase in row spacing and exit doors.

The guidelines include a table showing the advantages and disadvantages of listening systems for large areas - FM broadcast, infrared light, conventional induction loop, and 3-D loop systems. Some systems are suitable for hearing aid users; some are not. Similarly some can be used from any seat and some are restricted to certain fixed seats. In addition some are subject to interference from other equipment and feedback from hearing aids. Careful selection and engineering design is required.

ADAAG/UFAS sections critical to fine arts program spaces include:

4. Accessible Elements and Spaces: Scope and Technical Requirements
4.11 Platform Lifts (Wheelchair Lifts)
4.24 Sinks
4.25 Storage
4.32 Fixed or Built-in Seating and Tables
4.33 Assembly Areas
4.35 Dressing and Fitting Rooms
7.2 Sales and Service Counters, Teller Windows, Information Counters

The Access Board maintains a frequently updated web site (www.access-board.gov) with complete copies of all standards, guidelines, and reports.

Acoustics

Acoustic design is very important throughout the school and critical to music, dance, and theatre program spaces. In general, planners need to separate noisy areas from quiet zones. "Don't put the band room next to the library." They also need to contain sound and isolate areas. "Don't let private conversations in the counselor's office be heard in the adjacent waiting room." Most importantly they need to provide the correct acoustical environment for the function of the space. Multiple uses of space complicate the task. Multipurpose rooms are often less than ideal for functions because the acoustic design criteria for a dining room are not the same as those of an auditorium.

Prompted by complaints from parents of children with hearing impairments, the Access Board has recently begun a study of the acoustic design of classrooms. Accessibility standards that may be developed from this work would affect all schools and potentially benefit all children. A classroom teacher has to be heard by the child in the back row next to the unit ventilator.

Acoustic requirements for drama, music, and lecture are all different. One can design facilities with excellent acoustics for anyone of these, but it is nearly impossible to design a room with excellent acoustics for all, since many of the requirements for each are mutually exclusive. It is a mistake to start out designing for all three formats; the acoustics will not be suitable for any. Requirements for music are the most restrictive.

Acoustic design relies on basic physics. Sound radiates from its source in waves in all directions that continue until they hit something that absorbs or reflects them. Sound travels at about one foot per millisecond. Musicians hear best when the sound is reflected back to their ears with a slight delay of tens of milliseconds. If a musician sat twenty feet from a wall and played a note, the sound would return to the player's ears in 40 milliseconds - a suitable delay. The musician would be able to listen critically to the sound. Thus, large rooms with high ceilings giving adequate cubic volume are best for making and hearing music.

The sound waves have a measurable length and frequency. The frequency equates to the pitch. The tuning pitch "A" is 440 Hertz (Hz.) or cycles per second. Its wavelength is 2.6 feet. "C" below "middle C" has a frequency of 131 Hertz and has a wave length over eight feet long. Solid, thick materials are necessary to absorb such large waves.

People are capable of hearing musical sounds with frequencies between 20 to 20,000 Hz. and wavelengths from 72 feet to 0.875 inches. This range is much larger than that of speech - 125 to 8000 Hz. and 9 feet to 1.75 inches, and means that the design of spaces for music requires special training. The degree of absorption, reflection, and diffusion of sound in the space affects the tone color and how well the sound can be heard within the room. Sound isolation, loudness, reverberation, brightness, and warmth are additional elements to be considered.

The two most important elements of good acoustical design for music are the cubic volume of the space and the shape of the room. The volume allows the slight delay of the sound reflections off the walls, floor, and ceiling and also dissipates extreme loudness. The shape controls the reflections and can create undesirable hot spots, dead areas, and flutter echoes. Avoid cube-shaped rooms and untreated parallel walls.

Rooms where music is generated should be isolated acoustically by walls with a high Sound Transmission Coefficent (STC) rating. Double concrete masonry unit (CMU) walls with a cavity between filled with fiberglass acoustic insulation panels, are a common solution. Particular attention must be paid to the roof connection and structural penetration by joists or beams of these walls to maintain their acoustic integrity.

A useful reference on acoustics for facilities planners is the series of guides published by the Wenger Corporation, manufacturer of music equipment.

Audio Recording Room — Patapsco High, Baltimore County

Building and Life Safety Codes

Public safety is an integral part of school design. Building and life safety codes address construction, fire protection, egress, and occupancy features necessary to minimize danger. The number of exits, width of doors, height of rooms, distance between exits, construction of partitions and the choice of floor, wall and ceiling surfaces are regulated by these codes. Fire suppression systems (sprinklers) are highly recommended but not required in every school building. Safety alarm systems are required and must now include sound and flashing light to meet ADAAG specifications for recognition by persons with vision and/or hearing disabilities. Architects are responsible for knowing the requirements and incorporating appropriate features in the design. Local government officials review and approve the design drawings and may inspect the installation in process and at completion. New schools are designed to meet the codes current at the time of first occupancy. Depending on their scope, later renovations may or may not trigger a requirement to upgrade the entire building to new standards.

In theatre design, using a fly and counterweighted rigging system above the stage automatically move the construction type for the entire facility to a more restrictive category, adding significant costs to the basic system.

Community Use of Schools

Community use of schools is desirable and widespread. Not only do large numbers of the public attend school performances and athletic events, but numerous organizations regularly use school buildings. In some cases, space is formally dedicated to outside users. Examples are senior centers, health/wellness clinics, and recreation department activity rooms. In fact, Maryland's school construction program provides funding to support additional space for such cooperative arrangements. More common are shared-use agreements for programs like adult education classes, music recitals, or community meetings that allow outside groups to use dedicated school space. Numerous management and design issues may arise with such shared uses. The issues include scheduling, access to spaces and equipment, set up and tear down operations, storage needs, separation of supplies, funding, and fees. The extent and nature of community use should be discussed early in the planning phase and designed into the project. Significant outside users should be included as official members of the planning committee.

Because of its highly technical equipment, use of the fine arts performance space may require special arrangements. Provide a separate entrance for the performance space to facilitate after-hours use and separate public audiences from other school activities. A separate override for stage lighting may be provided to allow untrained community members to operate lighting at the most basic level.

Daylight

Recognition of the importance of natural daylight has increased in recent years. It is a source of warmth and light, but is valued especially for its emotional and physiological benefits. Having natural light, windows, and views of the outdoors greatly increase a person's orientation and satisfaction with a space. All school rooms that are occupied all day should have windows and natural light. Art rooms require natural light for accurate color rendition. Windows may be treated as important architectural features. High clerestory windows may be used above shelving. Skylights may be used in large central rooms if constant light and potential noise from rain are acceptable. Bay windows and window seats may be used in informal study and lounge areas. Glazed partitions allow natural light to be shared by interior offices and support rooms. Sunscreens, shades, blinds, or draperies should be provided to control the light level, minimize heat gain, reduce fading, and eliminate glare.

Several concerns about windows daylight in fine arts rooms exist. One is the need to control glare and the light level for audiovisual presentations and performances. A second is the need to control sound transmission and reflection in music rooms. These needs can be met with appropriate window location, size, shape, and covering treatment.

Energy Conservation and Climate Controls

Energy conservation is an important design goal in every project for environmental and financial reasons. The design process for new schools and major renovations in Maryland includes a required energy use and life cycle cost analysis of mechanical system options. The following items are addressed:

- Site orientation, wind screens, other natural factors
- Building envelop and spatial volumes
- Fenestration (the arrangement of windows and doors) and shading devices
- Thermal characteristics of materials
- Operating expenses based on hours of operation and capacities
- Types and amount of electrical equipment
- Types and levels of illumination
- Types of heating, ventilating, and air conditioning (HVAC) systems including special exhaust and ventilation systems.

Separate HVAC systems are frequently used for large sections of the building such as the gymnasium, auditorium, school library media center, and administration suite. The designer must pay special attention to the location and operation of mechanical units serving music and dance rooms and performance spaces. Noises from fan motors, high rates of airflow, and structural or surface vibrations must be avoided.

Energy monitoring and control systems are frequently included in new school design. These allow technicians to regulate one or more buildings from a central location. Fine arts performing spaces are frequently used after regular school hours and require advanced scheduling, manual overrides, and onsite controls.

Flexibility and Adaptability

School administrators, planners, and teachers want schools to be "flexible". Flexibility is the ability of a space to adapt to programmatic, institutional, and technological changes without major disruption or expense. One drama teacher suggested these guidelines simply recommend classrooms 30 feet wide, 60 feet long, and 20 feet high. Add sinks and technology wiring and he and his students would do the rest. In fact, such a space would work very well for theatre, music, visual arts, and many career technology and science programs for many years, although not very well for dance.

Providing a large open room is not the only answer to flexible space. Flexibility comes with spaces in a variety of sizes and the ability to reassign these spaces from year to year. Flexibility increases by providing features such as an extra door to a corridor; ample, secure storage space to allow two or more users to share a room; various sized

rooms to be used by many groupings of people; and adjustable, easy to move furniture. Adaptability decreases with features that are difficult and costly to move such as adjacent load bearing walls, corridors, stairways, restrooms, other utility areas, custom built-in furnishings, and floor level changes.

Each school should have dedicated spaces for fine arts programs. Chapter 3 recommends suggested minimums. Each program has unique physical requirements that cannot be met successfully in most other school rooms. Dance instruction requires space for movement and safe flooring. Music performance requires rooms with large volumes. Theatre study requires open space for multiple groupings and staging. Visual arts requires large areas for hands on, often-messy projects. The planning committee and the architect will be asked to balance the needs of the fine arts programs for dedicated space with the potential needs of future educational programs.

Graphics, Signs, and Art

Students, teachers, and community members are accustomed to sophisticated, colorful, well-coordinated, and effective graphics and signs in commercial areas. They need the same quality of information in schools. While most businesses hire graphic designers as part of the project design team, school systems rarely do. The basic sign package specified by the architect for a new school building may include key traffic direction signs, the school name, door numbers, and sometimes department or cluster signs. Administrators and teachers later add signs as required. These are often an undesirable hodgepodge of materials, styles, and wording. As much forethought as possible should be given to the sign requirements before bidding.

Signs in the fine arts program areas are important. Clear location and direction signs are essential in the auditorium and other assembly areas. Visitors are frequently coming to the school for the first time and need to understand quickly where to enter, pick up tickets, find seats, find restrooms and concessions. Clear signs backstage are just as important for performers for both outside groups new to the facility and student groups working under the pressure of show time. In all areas fine arts students must be able to independently locate materials, operate equipment, and do their work. Signs, labels, and clearly posted directions in educational program areas are key.

Numerous locations in a school are suitable for the display of art. Art is sometimes incorporated into the architectural design of the school in murals, mosaics, or stained glass. Some jurisdictions have adopted "Art in Public Places" programs that require a certain percentage of the construction cost be added to the project for a permanent art installation. Art reflecting the neighborhood, city, countryside, and natural environment is suitable for school library media reading areas, administrative offices, seminar rooms, lobbies, corridors, and assembly rooms. The work of local artists or talented students may be collected and featured. While there is a danger of introducing too much visual clutter in a school, the architect should provide a framework for display in the public areas that accommodates changing exhibitions of work. See also the "Gallery" description in Chapter 3.

Indoor Air Quality

Indoor air quality (IAQ) issues are divided in two broad categories- the thermal environment and air contaminants. The thermal environment includes air temperature, radiant temperature of surrounding surfaces, uniformity of air temperature, humidity, and air movement. In general, a year round temperature between 72 and 76 degrees Fahrenheit (F.) is generally acceptable assuming fairly uniform conditions through out a room. The relative humidity should be between 30 and 60 percent. Higher humidity can lead to the growth of fungi and bacteria. The rate of air motion should be less than 30 feet per minute. Air contaminants are particles, fibers, mists, vapors, fumes, bio-aerosols, and gases that may produced by people, maintenance activities, instructional materials, and building materials. Contaminants are controlled by filtration and by dilution with relatively clean outdoor air. Poor indoor air quality

harms the educational program by contributing to discomfort, stress, mild to severe respiratory irritation, aggravation of cold and allergy symptoms, and absenteeism. The American Society of Heating, Refrigerating and Air Conditioning Engineers publishes professional design standards for environmental systems. The MSDE School Facilities Branch has published many technical bulletins on IAQ issues specific to schools. These are available from the Branch at the address listed at the front of this document.

Dance program areas require careful heating, ventilation, and air conditioning (HVAC) design to provide comfortable conditions. Temperature control and ventilation are key environmental elements for the protection of dancers in thin clothing as they warm up, move actively, and cool down. Although not an IAQ issue, the noise of mechanical systems is also a concern.

Music program areas require similar systems both for the musicians and for the protection of valuable and fragile musical instruments. Humidity and temperature controls are critical. Stringed instruments, woodwinds, and piano soundboards are particularly sensitive. Temperature should remain between 65 and 72 degrees F. Relative humidity should be between 35 and 50 percent. Music is also a physically active endeavor requiring high ventilation rates. Design engineers must avoid disruptive mechanical system noise.

Visual arts and theatre program areas frequently include materials that may affect IAQ and personal health. These include clays containing silica dust, fumes and gases from kiln firing, paints, powdered pigments, dyes, varnishes, stone, wood, metal, plastic, waxes, acids, inks, solvents, toners, aromatic hydrocarbons, ozone, heat, fireproofing chemicals, various types of plastic resin coatings, spray adhesives, glues, welding and soldering materials, metal rouge, powdered metals, and vermiculite. In the past ten years school systems have reduced the number of potentially hazardous materials commonly used and manufacturers have increased the number of safer products available. Theatre workshop areas and back stage areas require the same consideration for ventilation as career technology education, construction trades, and visual arts laboratories. The following control methods are recommended:

- Never work with products when the composition is unknown.
- Obtain material safety data sheets on products used.
- Use less hazardous substitute materials, such as water-based products.
- Develop a list of materials not to be used. If possible, provide educational activities that do not require respirators.
- Use appropriate protective equipment - gloves, face shields, aprons, etc.
- Maintain good housekeeping. Label containers.
- Keep containers closed when not in use.
- Follow approved methods of disposal.
- Provide local exhaust systems over hazardous material work areas - canopy hood over kilns, spray booths for airbrush painting, etc.
- Provide adequate ventilation to meet manufacturers recommendations in all rooms where photographic products are used.
- Isolate or enclose a process or work operation to reduce the number of persons exposed.

Art Supply Storage — Ilchester Elementary, Howard County

Natural Environment of School Sites

The vision of the ideal school site is changing from a vast expanse of green lawn physical education and recreation fields to a rich blend of natural habitats. These outdoor classrooms support all aspects of the curriculum and provide a wealth of multi-disciplinary, real-world, authentic experiences that stimulate learning. In addition to the education benefits there are environmental and financial benefits. Environmentally, such site development meets state and local requirements for sediment control, storm water management, stream protection, reforestation, and wetland preservation and enhancement. Financially these projects typically reduce grounds maintenance costs, transportation costs for trips to remote study sites, and save on the purchase of educational materials now available for "free" on the site. Site development options include native plant landscaping, rain gardens, forests, meadows, wetlands, gardens, streams, paths, seating, work surfaces, wildlife viewing blinds, amphitheaters, and nesting boxes. The projects vary greatly in size and location from small courtyard gardens to major storm water management ponds hundreds of yards from the school building.

Natural sites support visual arts programs by providing locations for observing, sketching, and photographing nature. Performing groups may use outdoor amphitheaters for productions.

Security and Loss Prevention

Security and loss prevention issues are increasingly important and sometimes in conflict with other safety issues. A security guard wants there to be only one way in and out of a building. A fire marshal wants numerous exits widely dispersed. A building wide security plan should be prepared in consultation with local police that includes passive and active controls to guard against unauthorized access, theft, and violence. Passive design techniques for security include locating offices in sight of building entrances, eliminating alcoves that offer hiding places, and giving teachers clear lines of sight at known conflict zones - corridors, stairways, restrooms. Active systems include sophisticated locking systems, motion detectors, video monitoring devices, and bar-coded identification cards. In 2001, the State of Maryland PSCP will publish a guide for school safety promoting crime prevention through environmental design or CPTED, pronounced "sep-ted". CPTED principles address access control, natural surveillance, and territoriality.

Fine arts program areas have some unique needs in addition to general security requirements. Artists and performers traditionally work long, late hours. Creative work does not stop when an arbitrary time is reached. Rehearsals are frequently after regular school hours with most public performances on weekends at night. Students will need access to telephones and safe, well-lit areas as they wait for pick up by parents. Many fine arts projects involve small groups of students working independently. Opportunities for unauthorized entrance into the school are many. The Wenger Corporation's 1998 planning guide estimated the value of equipment for a typical high school music program at over $332,000 with $100,000 each for musical instruments and sheet music. Theft or damage from fire or vandalism in any of the fine arts program areas would be a tremendous loss for the school system.

Telecommunications Systems

Maryland has issued standards for telecommunications distribution systems that apply to new schools and renovations. These standards address specifications for quality assurance, telecommunications pathways and spaces, telecommunications wiring standards, video systems, and the building electrical system. This document is available from the MSDE School Facilities Branch. The telecommunications infrastructure must provide a high reliability of service by providing near flawless delivery of signal throughout the network over a long period of time with virtually no maintenance. School facilities are faced with unique challenges regarding the availability of trained personnel and limitations on the financial resources available for maintaining these increasingly complex systems. The system also has to recognize and accommodate change as a normal part of its function.

Planning for educational technology should begin very early in the school planning process. The MSDE standards include minimum area requirements for telecommunications equipment rooms that range from 100 square feet for a very small school to 400 square feet for a large high school. General classrooms are required to have a minimum of three student workstation data outlets, one teacher workstation data outlet, one optional use networked device data outlet, one voice outlet, and two video outlets in a high/low configuration. Special subject labs such as visual art rooms are required to have a minimum of one data outlet per group workstation, but not less than one per four students, two additional network device data outlets, one teacher workstation data outlet, one voice outlet, and one video outlet. Voice, video, and data outlets are also required in auxiliary gymnasium spaces, multi-purpose rooms, and on stages. Two appendices from the standards are included for reference in this document.

MIDI Laboratory, Teachers Station

J. H. Blake High
Montgomery County

Title 13A State Board of Education
Subtitle 04 Specific Subjects
Chapter 16 Program in Fine Arts
Authority: Education Article 2-205, Annotated Code of Maryland

.01 Requirements for Fine Arts (Art, Dance, Music, Theatre) Instructional Programs for Grades K-12.

A. The following fine arts instructional programs shall be required in public schools for grades K-12:

(1) Grades K-8. Each local school system shall provide an instructional program in fine arts each year for all students in grades K-8.

(2) Grades 9-12. Each local school system shall offer fine arts instructional programs in grades 9-12 which shall enable students to meet graduation credit requirements and to select fine arts electives.

B. Maryland Fine Arts Program. The instructional program shall encompass at some time in grades K-8, at a minimum, the arts instructional program competencies and objectives listed in the Declared Competencies Index, incorporated by reference in COMAR 13A.03.01.03, and the expected outcomes related to these competencies and objectives described in guidelines of the State Department of Education. Program accommodations shall be made for students with disabilities. The comprehensive instructional program shall provide for the diversity of student needs, abilities, and interests, at the early, middle, and high school learning years, and shall include all of the following goals and subgoals:

(1) To develop the ability to perceive and respond to experiences and the environment through fine arts, which includes:

(a) Developing an understanding of ways that sensory stimuli effect perception of the acquisition of knowledge,

(b) Developing an understanding and appreciation of a variety of artistic responses to ideas, images, forms, sounds, and experiences, and

(c) Developing an understanding of ways that organizing concepts effect expression in the fine arts;

(2) To develop an understanding of the fine arts in historical, cultural, and social contexts, which includes:

(a) Developing the ability to recognize and appreciate the fine arts as forms of individual and cultural expression,

(b) Developing an understanding of the philosophies, traditions, styles, forms, and conventions of the fine arts, and

(c) Developing an understanding of the interrelationships among the fine arts and other forms of cultural expression such as the humanities and sciences;

(3) To develop skills and attitudes and to organize knowledge and ideas for creative expression and performance in the fine arts, which includes:

(a) Developing the skills and attitudes required to perform or produce in one or more of the fine arts disciplines,

(b) Developing the ability to create compositions using the organizing concepts of the fine arts and a variety of materials, techniques, and processes, and

(c) Developing the ability to improvise and experiment with artistic media;

(4) To develop the ability to apply criteria to aesthetic decision making, which includes;

(a) Developing the knowledge, skills, and sensitivity to make aesthetic judgments,

(b) Developing the ability to identify, describe, apply, and communicate personal criteria for assessing one's own work, and

(c) Developing the ability to apply aesthetic criteria to the environment.

C. Curriculum Guides. Consistent with Education Article, 4-110, Annotated Code of Maryland, each of the local school systems shall provide fine arts education curriculum guides for the elementary, middle, and high schools under its jurisdiction.

D. Student Participation. Each student shall have the opportunity to participate in the fine arts (art, music, dance, theatre) instructional programs required by this chapter.

.02 Certification Procedures.

By September 1, 1989, and each 5 years after that, each local superintendent of schools shall have certified to the State Superintendent of Schools that the instructional programming within grades K-12 meets, at a minimum, the requirements set forth in Regulation .01.

Administrative History

Effective date: July 1, 1988 (15:9 Md. R. 1110)
Regulation .01B amended effective August 15, 1994 (21:16 Md. R. 1388)

Maryland Arts Organizations

- **Maryland Alliance for Arts Education** (MAAE) is an affiliate of the Kennedy Center's Alliance for Arts Education Network (KCAAEN). It is dedicated to advancing arts education in Maryland schools and serves as liaison between national, state, and local educational agencies.

- **Maryland Art Education Association** (MAEA), an affiliate of the National Art Education Association, is the professional organization of art teachers in Maryland. The MAEA and NAEA have newsletters and a wide variety of literature on art education.

- **Maryland Citizens for the Arts** advocates at the state and national levels for arts and arts education and is the "One Voice for All the Arts in Maryland."

- **Maryland Council for Dance** (MC/D) is the advocacy organization for dance in Maryland, as well as a source of information about dance.

- **Maryland Music Educators Association** (MMEA), the state affiliate of Music Educators National Conference, the professional organization for music teachers in Maryland, publishes a quarterly journal and other literature pertaining to music educators.

- **Maryland State Arts Council** (MSAC) is an agency of the Maryland Department of Business and Economic Development. Its Arts Education in Maryland Schools (AEMS) Consortium is a partnership of arts organizations and educators across the state. The Artists in Education (AIE) program supports artists in residence and performances in elementary and secondary schools.

- **Maryland State Department of Education (MSDE)**, Office of the Specialist for the Arts works with all the arts supervisors in Maryland in developing content and evaluation standards for arts programs.

Appendix C

from Maryland Public School Standards for Telecommunication Distribution Systems - MSDE, January 1999

Minimum Quantity of Telecommunications Outlets [1]

Space	Telecommunications Outlet Capabilities and Quantities		
	Data [2]	Voice	Video
Classrooms Includes all instructional areas noted below.	3 Student Workstation Outlets 1 Teacher Workstation Outlet 1 Optional-use networked device outlet (Workstation, printer, scanner, etc.)	1	2 (High-low configuration - See Part 5.5)
Key Administrative Offices (Principal, V.P., Guidance, etc.)	1 Per Occupant + additional outlets for networked devices as required	1	1
All Other Offices, Administrative Spaces	1 Per Occupant + additional outlets for networked devices as required	1	-
Teacher Planning Rooms	1 Per Workstation (2 minimum)	1	1
Conference Rooms	1	1	1
Instructional Media Center	1 for each 4 students of room capacity. (Room capacity calculation = 80% of enrollment up to a maximum of 125) 1 networked device outlet for each 5 student outlets. 2 outlets per staff workstation	1	1
Computer Laboratories	1 Per Student Workstation 1 Teacher Workstation Outlet 1 Networked device outlet for each 5 student outlets (4 minimum)	1	2 (High-low configuration - See Part 5.5)
Special Subject Laboratories (i.e., Science, Technology Ed, Family and Consumer Sciences) and Art Rooms	1 Per Group Workstation, but not less than 1 per 4 students. 2 additional network device outlets. 1 Teacher Workstation Outlet	1	1
Gymnasiums (including all auxillary P.E. instructional spaces)	1	1	1
Multi-Purpose Room/ Cafetorium	1	1	1
Food Service Point of Sale	1 Per Serving Line	-	-
Stage (Elementary Schools)	1	1	1
Stage (Secondary Schools)	1	1	2
Storage Rooms >/= 100 nsf	1	1	-
Telecommunications Equipment Rooms Telecommunications Closets Electrical Service Entrance Facility Mechanical Equipment Rooms >100 sf	1	1	-

(1) Telecommunications outlets shall be provided in all instructional, administrative, and support spaces except toilet rooms, janitors closets, small storage rooms, etc. Additional optional-use outlets for networked devices (i.e., workstations fax, printers, scanners, plotters, etc.) shall be provided where required. Designers are cautioned to not overlook small support spaces such as music practice rooms, special education observation rooms, school store, control rooms, etc.

(2) In the presence of Wireless Local Area Network (WLAN) capability, a minimum of 1 hardwired data outlet per space shall be provided for additional networked devices, in addition to required voice and video outlets. (See Part 4.10.3).

from Maryland Public School Standards for Telecommunication Distribution Systems - MSDE, January 1999

Summary of Minimum Telecommunications Wiring Standards

COMPONENT	ITEM	REFERENCE	DATA	VOICE	VIDEO
Work Area Telecommunications Outlets (TO)	**Quantity**	Appendix A/4.2.1	Figure 2.1	Figure 2.1	Figure 2.1
	Connector	4.2.2	8-Position (RJ-45)	8-Position (RJ-45)	"F+G" Type
	Pin-Pair Assignments	4.2.2	EIA/TIA T568A (568B Optional)	EIA/TIA T568A (568B Optional)	N/A
	Configuration	4.2.1	Min. 2 outlets per drop (i.e. 2 data or 1 data + 1 voice, etc.)	Min. 2 outlets per drop (i.e. 2 data or 1 data + 1 voice, etc.)	As Required
Work Area Power Outlets	**Quantity**	6.6	(1) Duplex Outlet per video Outlet	(1) Duplex Outlet per voice Outlet	(1) Duplex Outlet per video Outlet
	Circuiting	6.7	20 AMP 120V, 1 phase circuit, max. (4) duplex receptacles per circuit		
Horizontal Distribution	**Cable**	4.3.2	Enhanced Category 5 UTP	Enhanced Category 5 UTP	RG-6/u Coaxial
	Conductors	4.3.2	4 Pair (8 conductor)	4 Pair (8 conductor)	Single
	Rating	4.3.2	Plenum rated where required by code		
	Pathways	3.2	Conduit from outlet to ceiling	Conduit from outlet to ceiling	Conduit from outlet to ceiling
Connecting Hardware	**Patching Connector**	4.3.4/4.4.6	RJ - 45	RJ - 45	BNC Type (Type "F" Alt.)
	Punch Down	4.3.4/4.4.6	110 Type	110 Type	N/A
	Patch Cables	4.3.4/4.4.6	Enhanced Category 5 UTP	Category 3 UTP	Part 5
Backbone Distribution (Intra-building)	**Cable**	4.4.2	Multi-mode fiber optic	Category 3 UTP	RG-11/u 500 Series Alternate)
	Conductor	4.4.2/4.4.5	12 Strand	High-Pair Count (25+)	Single
	Rating	4.4.2	Plenum rated where required by code		
	Connector	4.4.6	568 SC or Small Form Factor (SFF)	Category 3 Block	BNC Type
	Pathways	4.4.1	Conduit/Tray/Innerduct		
	Riser Cable	4.4.1	Plenum rated		
Campus Backbone Distribution (Inter-building)	**Cable**	4.4.1/4.4.2	Multi-mode fiber optic	Category 5 Enhanced UTP	RG-11/u 500 Series
	Conductor	4.4.1/4.4.2	12 Strand	High-Pair Count (25+)	Single
	Connector	4.4.6	568 SC	Category 5 Block	BNC Type (Alt)
	Pathways	3.4	Overhead or conduit - (direct burial not acceptable)		

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